SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EIS004QW

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

Maintenance Information

EIS004QX

If any of following part is replaced, always replace with new* one.
If it's not (or fail to do so), the electrical system may not be operated properly.
*: New one means a virgin control unit that has never been energized on-board.

RHD MODELS

- BCM (Models without Intelligent Key system)
- Intelligent Key unit (Models with Intelligent Key system)
- ECM
- IPDM E/R
- Combination meter
- EPS control unit

LHD MODELS

- BCM (Models without Intelligent Key system)
- Intelligent Key unit (Models with Intelligent Key system)
- ECM

Precautions

EIS004LF

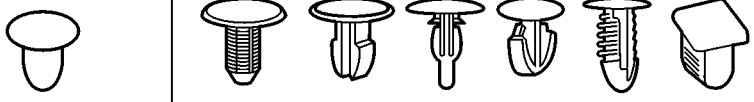
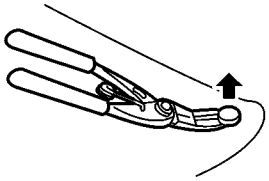
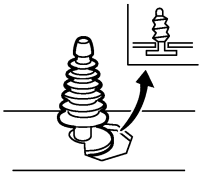
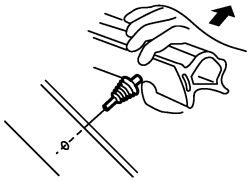
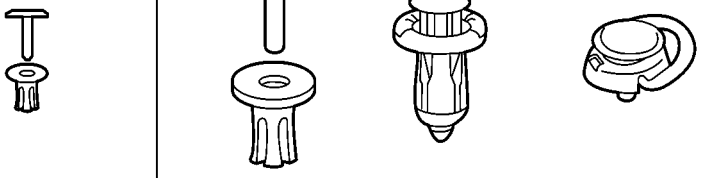
- After installing removed lids or doors, be sure to adjust hinges and mount points so that lids or doors can open and close properly.
- Confirm parts for proper lubrication, damage or wear. Lubricate, repair or replace as necessary.

CLIP AND FASTENER

PFP:76906

List of Table

EIS004LI

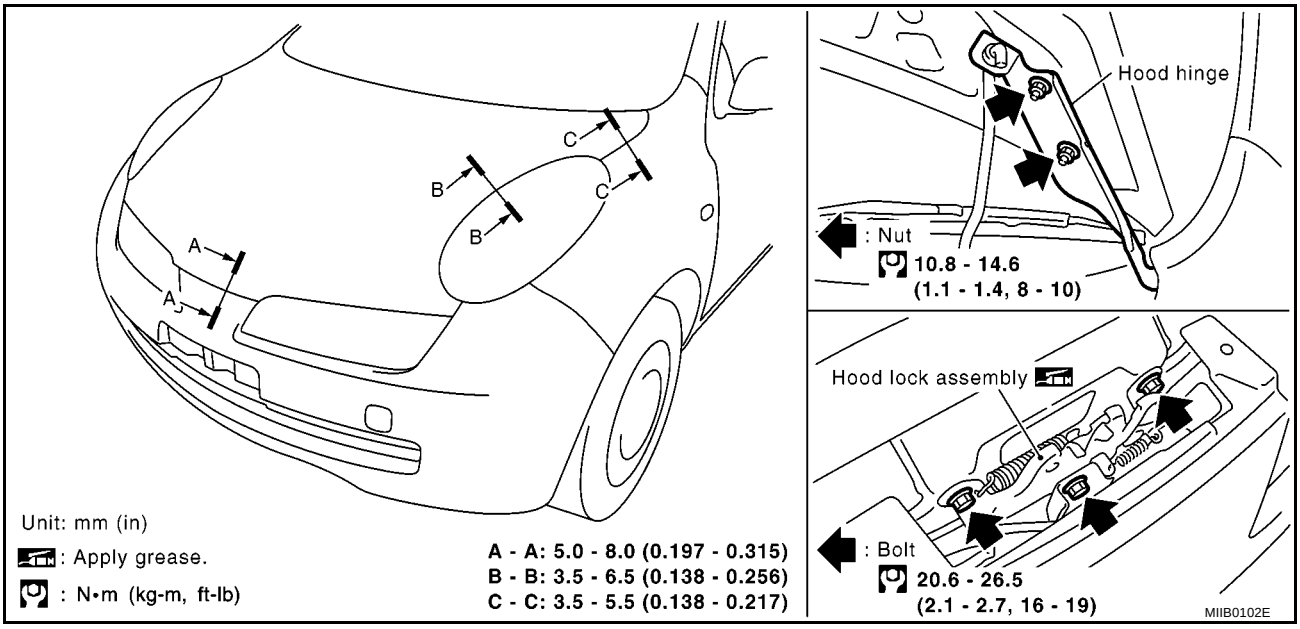
Symbol No.	Shape	Removal and installation
C103		 PIIA1350J
CE103		 PIIA1354J
C205		**Removal:** Flat-bladed screwdriver Clip Finisher MIIB0153E

HOOD

PFP:F5100

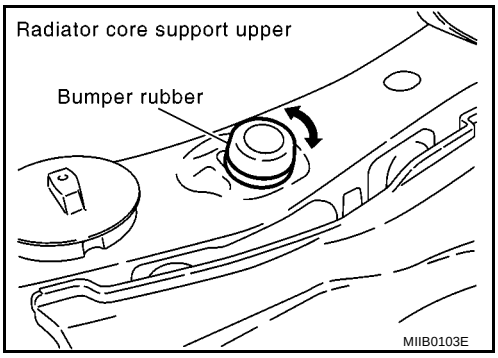
Fitting Adjustment

EIS004LJ



FRONT END HEIGHT ADJUSTMENT AND LATERAL/LONGITUDINAL CLEARANCE ADJUSTMENT

1. Remove hood lock. Rotate bumper rubber to adjust height until hood becomes 1 to 1.5 mm lower than the fender.
2. Position hood lock and engage striker. Check hood lock and striker for looseness. Tighten lock bolts to the specified torque.



CAUTION:

Adjust the clearance between hood and other parts so that the dimensional difference left and right is as follows.

Hood (B) - Headlamp (B) : 1.5 mm or less

Hood (C) - Headlamp (C) : 1.0 mm or less

SURFACE MISMATCH ADJUSTMENT

1. Release hood lock, and adjust surface level difference of hood, fender, and headlamp according to the fitting standard dimension, using RH and LH bumper rubbers.

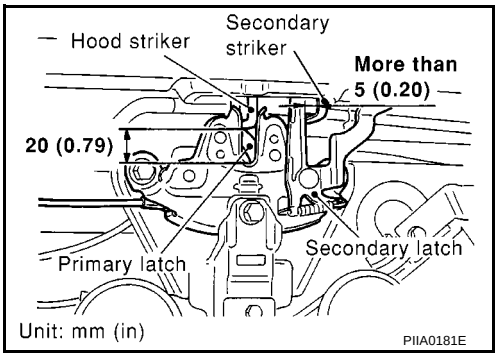
Hood (B) - Headlamp (B) : 1.0 mm

Hood (C) - Headlamp (C) : 0.2 mm

2. Install hood lock, and move hood lock laterally until the centers of striker and lock become vertical when viewed from the front.
3. Make sure the secondary latch is securely engaged with the secondary striker from either the dead weight of the hood (free-fall from approx. 200 mm height), or by applying light pressure (approx. 3 kg).

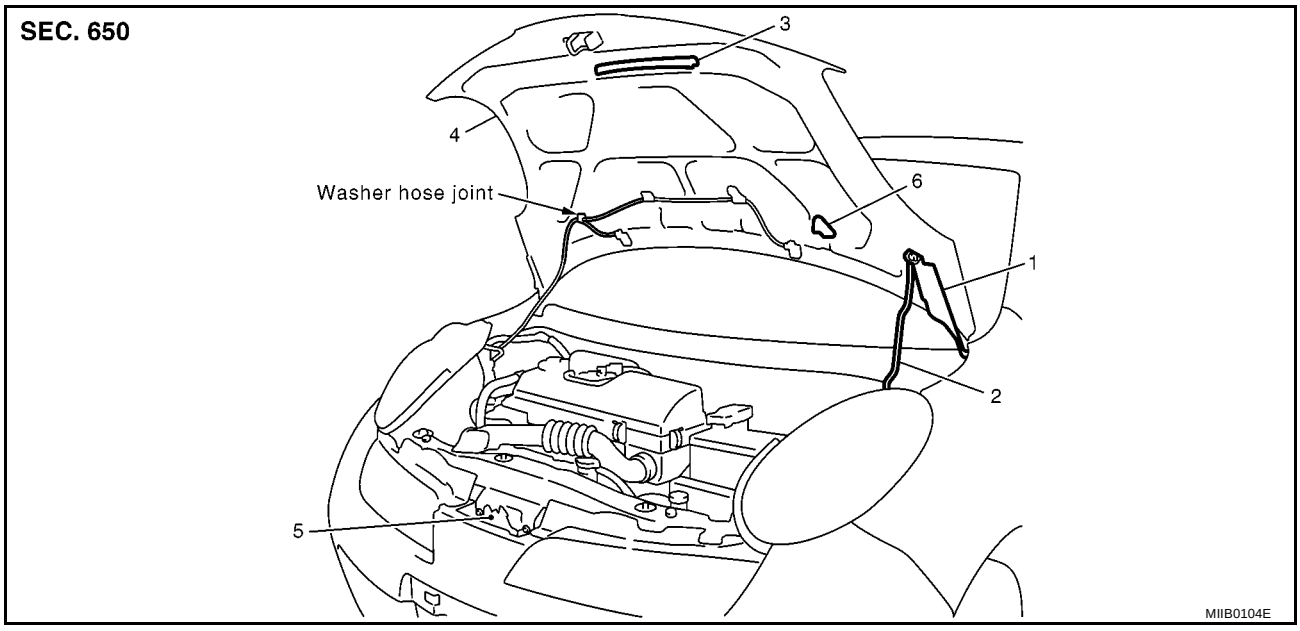
   CAUTION:

   Do not drop hood from a height of 300 mm or more.
4. Move hood lock-up and down until striker smoothly engages the lock when the hood is closed.
5. After adjustment, tighten lock bolts to the specified torque.



Removal and Installation

EIS004LK

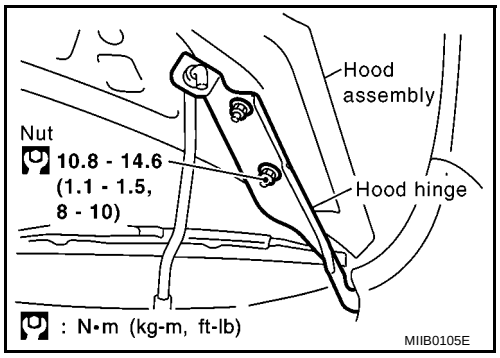


1. Hood hinge
2. Hood stay
3. Radiator core seal rubber
4. Hood assembly
5. Hood lock
6. Hood stay holder

REMOVAL

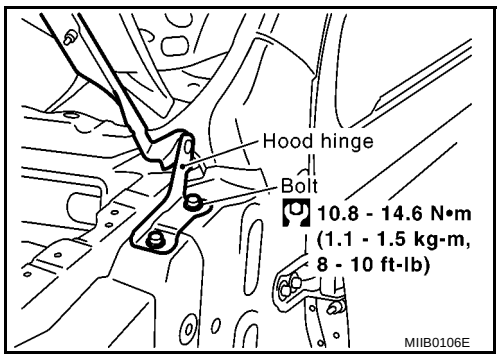
Hood Assembly

1. Disconnect washer hose at the connecting point.
2. Remove hinge nuts on hood and remove hood assembly.



Hood Hinge

1. Remove hood assembly.
2. Remove front fender. Refer to BL-14, "Removal and Installation" .
3. Remove bolts and then remove hood hinge.

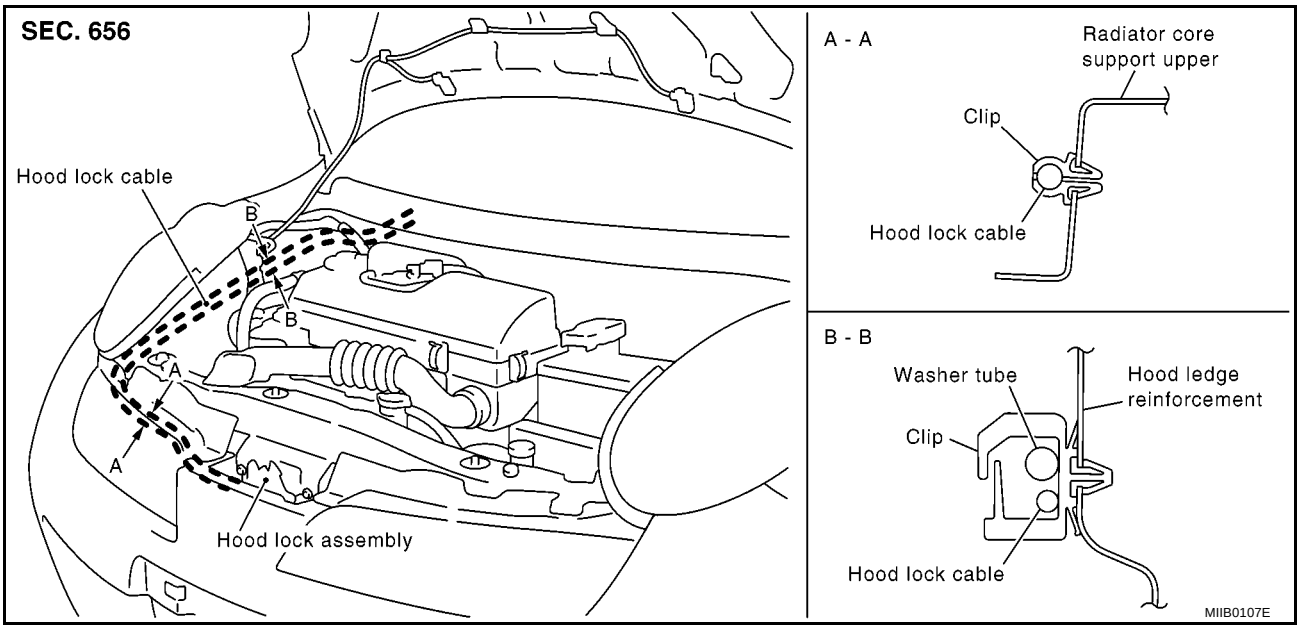


INSTALLATION

- Perform installation in the reverse order of removal while being careful of the following items while performing the work.
- Apply Anti-Corrosion Wax M-97 Super or comparable product to the hood hinge, hood ledge, and hood assembly.
- After installing, perform hood fitting adjustment. Refer to BL-7, "Fitting Adjustment" .

Removal and Installation of Hood Lock Control

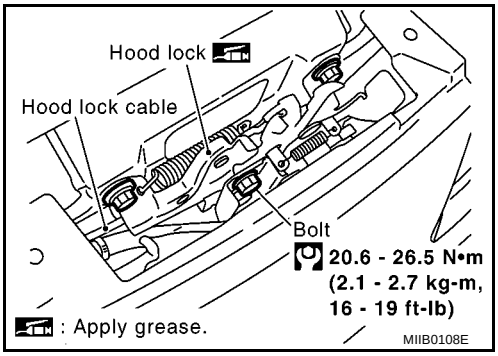
EIS004LL



REMOVAL

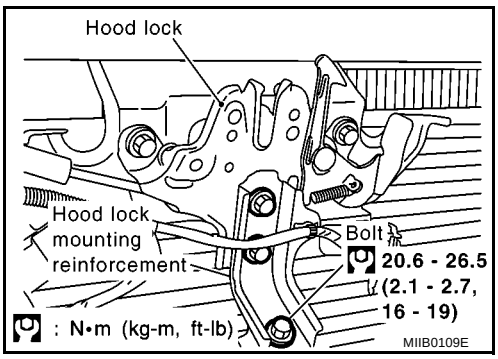
Hood Lock

1. Remove front grille (LH/RH). Refer to EI-8, "Removal and Installation" .
2. Remove hood lock bolts.
3. Remove hood lock cable from hood lock.



Hood Lock Mounting Reinforcement

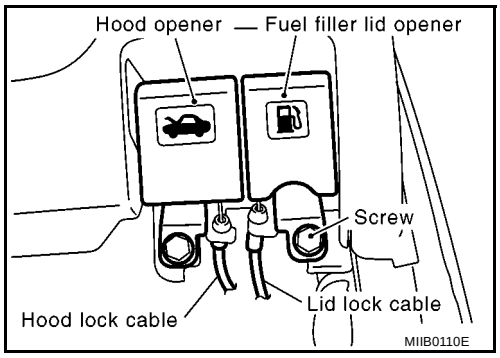
1. Remove front bumper. Refer to EI-4, "Removal and Installation" .
2. Remove bolts, and then remove hood lock mounting reinforcement.



Hood Lock Cable

1. Remove front grille (LH/RH). Refer to EI-8, "Removal and Installation" .
2. Remove fender protector (RH). Refer to EI-11, "Removal and Installation" .
3. Remove hood lock, and remove hood lock cable from hood lock.
4. Remove radiator core upper support and hood ledge clips, and then remove hood lock cable.
5. Remove hood opener on bottom right of instrument panel, and then remove hood lock cable.
6. Remove grommet on lower dashboard, and pull out hood lock cable from passenger room side.

CAUTION:
While pulling the cable, be careful not to damage (peel) hood opener cable outer surface on edges of body through hole.



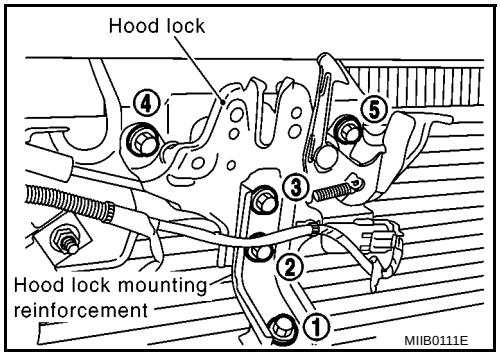
INSTALLATION

- Perform installation in the reverse order of removal while being careful of the following items while performing the work.
- After installing, perform hood fitting adjustment. Refer to BL-7, "Fitting Adjustment" .

Hood Lock Mounting Reinforcement

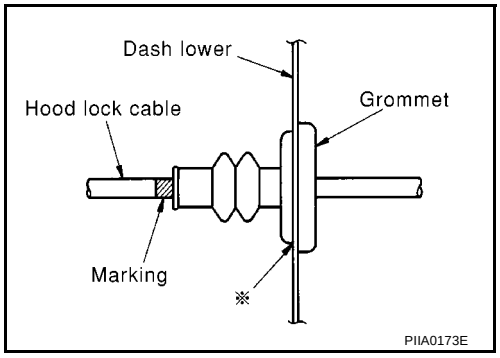
- When installing hood lock mounting reinforcement, loosen hood bolts, and then tighten bolts in the order shown in the figure.

Bolt No. 1 to 5.	**Tightening torque (N·m, (kg-m))** **: 20.6 - 26.5 (2.1 - 2.7)**

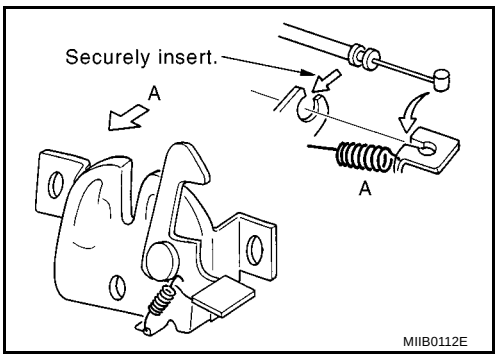


Hood Lock Cable

1. Pass hood lock cable through the opening while keeping the winding radius 100 mm or larger.
2. After confirming grommet is properly positioned, push it securely into the hole.
3. Apply sealant (POS seal) to area on the grommet indicated with the * mark.



4. Install cable securely to lock.
5. After installing, check hood lock adjustment and hood opener operation.



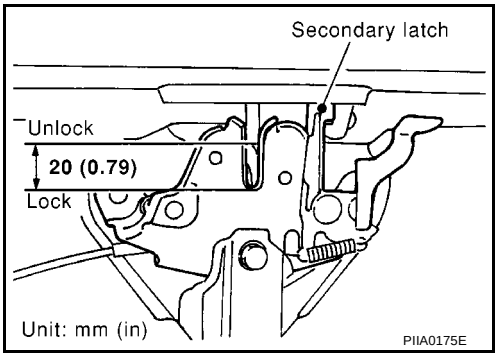
Hood Lock Control Inspection

EIS004LM

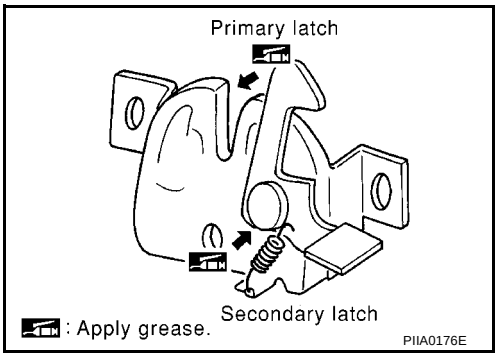
CAUTION:

If hood lock cable is bent or deformed, replace it.

1. Confirm hood lock secondary latch securely engages secondary striker by releasing it from a height of approximately 200 mm.
2. While operating the hood opener carefully, make sure the front end of the hood is lifted by approximately 20 mm. Also, make sure the hood opener returns to the original position.



3. Inspect hood lock grease, and if insufficient, apply grease to the area shown in the figure.

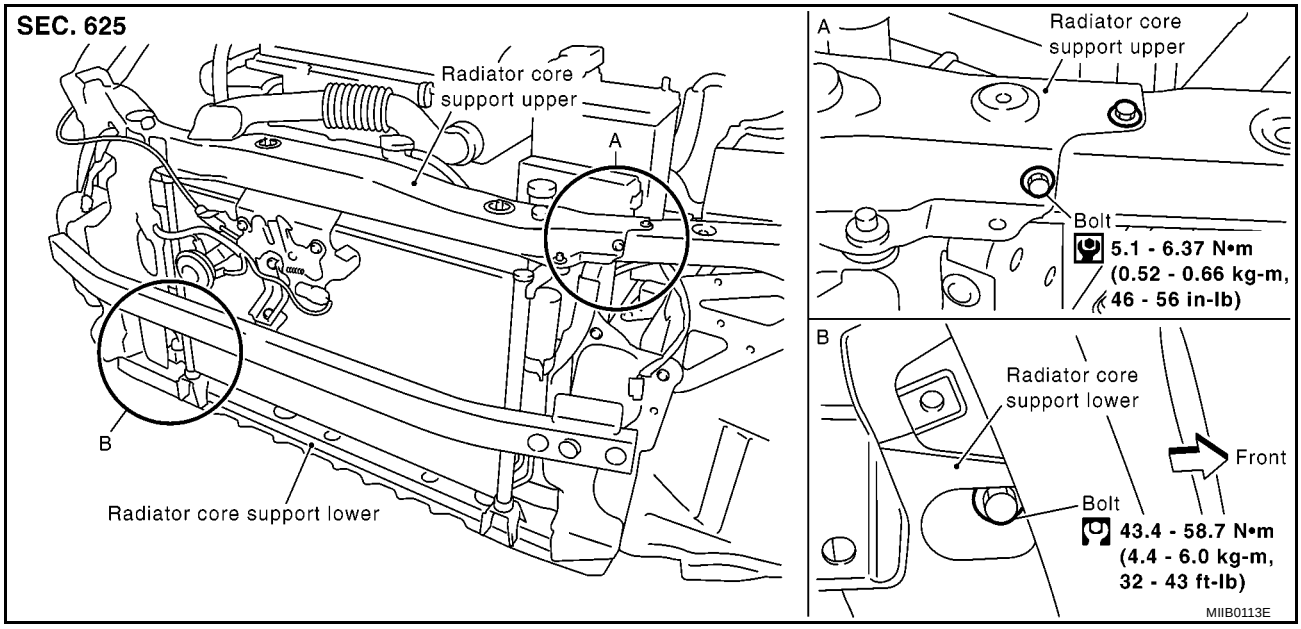


RADIATOR CORE SUPPORT

PFP:62500

Removal and Installation

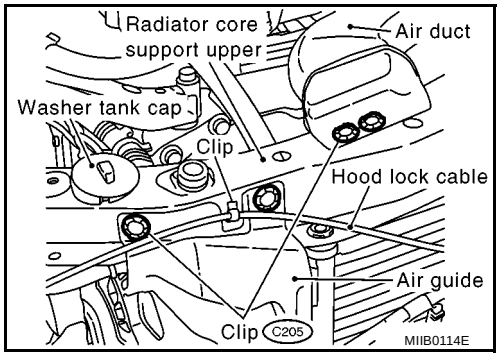
EIS004LN



REMOVAL

Radiator Core Upper Support

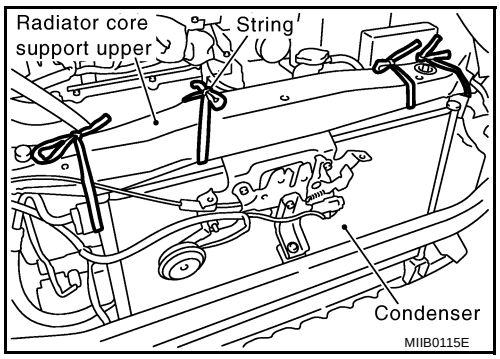
1. Remove headlamp (LH/RH). Refer to LT-41, "Removal and Installation" .
2. Remove hood lock assembly and hood lock mounting reinforcement. Refer to BL-9, "Removal and Installation of Hood Lock Control" .
3. Remove hood lock cable and air duct installation clips at top of air guide (RH).
4. Remove washer tank cap, and then pull washer tank inlet downward to pull it out.
5. Remove bolts, and then remove radiator core upper support.



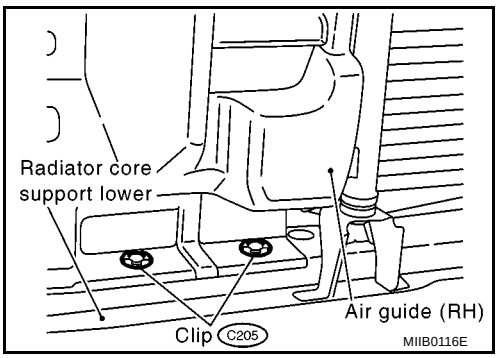
Radiator Core Lower Support

1. Remove front grille (LH/RH). Refer to EI-8, "Removal and Installation" .
2. Remove installation clips on top of air guide (RH).
3. Remove front bumper lower clip. Refer to EI-4, "Removal and Installation" .
4. Remove screws and clips and separate bumper fascia from fender protector left/right.
5. Tie cord to all radiator core upper supports of the radiator and condenser.

   NOTE:
   To prevent the compressor and radiator from being dropped when the radiator core lower support is removed.
6. Remove bolts, and lower radiator core lower supports.



7. Remove air guide (RH) bottom clips, and remove radiator core lower supports from passenger room.



INSTALLATION

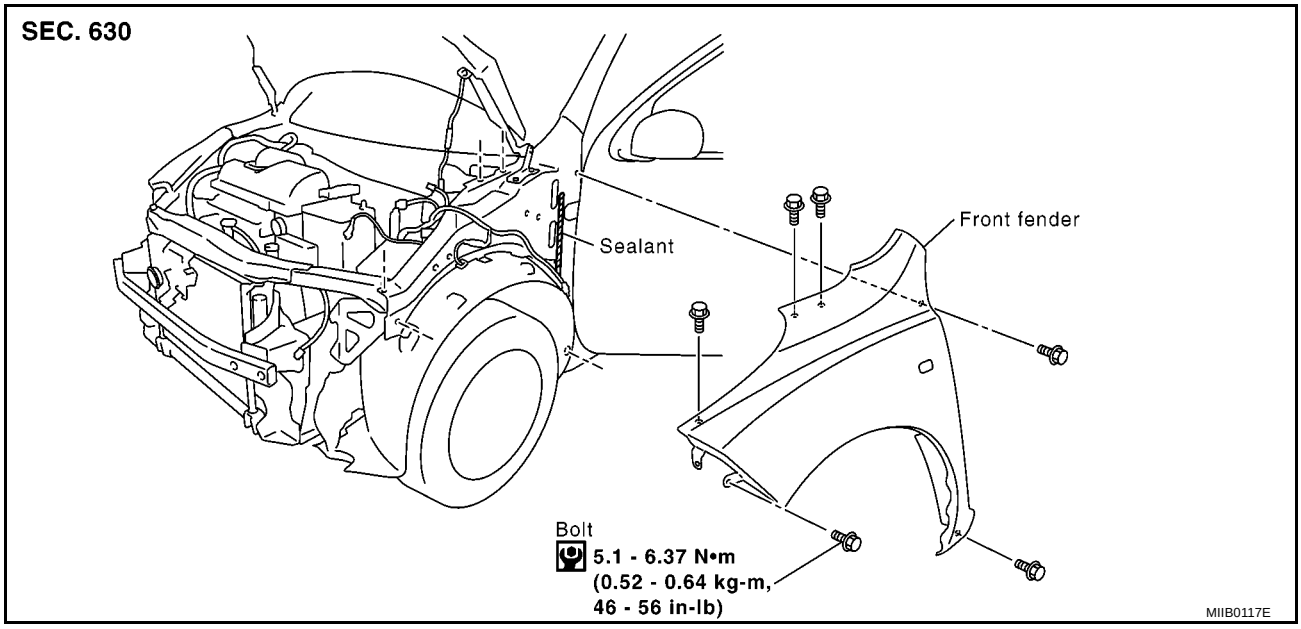
Install in the reverse order of removal.

FRONT FENDER

PFP:63100

Removal and Installation

EIS004LO



REMOVAL

1. Remove side turn signal lamp. Refer to LT-150, "Removal and Installation" .
2. Remove front bumper. Refer to EI-4, "Removal and Installation" .
3. Remove headlamps. Refer to LT-41, "Removal and Installation" .
4. Remove fender protector front fender side clips (2) and screws (3). Refer to EI-11, "Removal and Installation" .
5. Remove bolts and then front fender.

INSTALLATION

Install in the reverse order of removal.

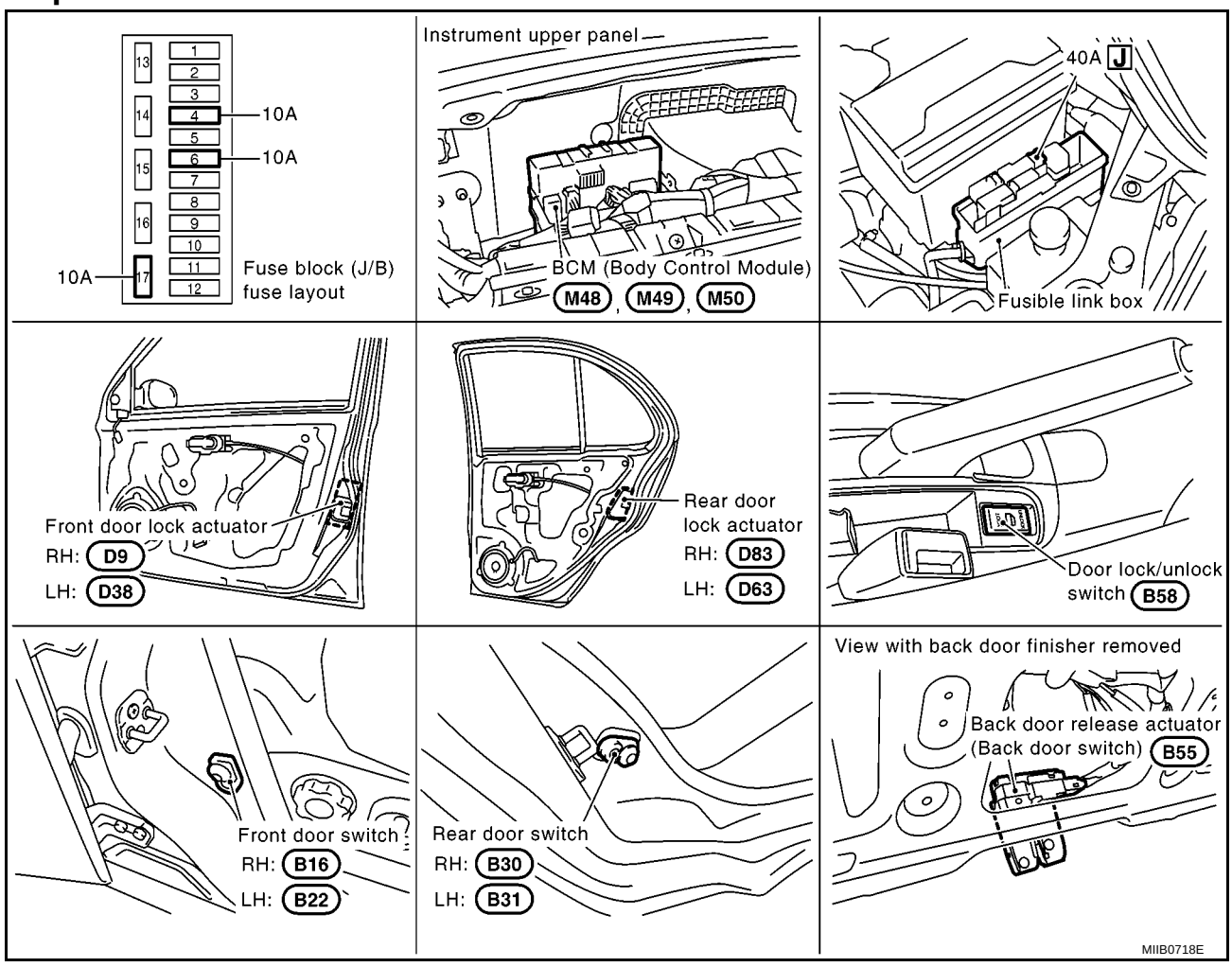
POWER DOOR LOCK SYSTEM

PFP:24814

Component Parts and Harness Connector Location

SMA for VIN >SJN**AK12U1309269

EIS004X9



System Description

SMA for VIN >SJN**AK12U1309269

EIS004X8

OPERATION

Power is supplied at all times

- to BCM terminals 74 and 79
- through 40A fusible link (letter **J** , located in the fusible link box).
- to key switch terminal 1 (Without Intelligent Key system)
- through 10A fuse [No. 6, located in the fuse block (J/B)] (Without Intelligent Key system)
- to key switch and ignition knob switch terminal 3 (With Intelligent Key system)
- through 10A fuse [No. 17, located in the fuse block (J/B)] (With Intelligent Key system).

When the key switch is ON (Ignition key is inserted in ignition key cylinder), power is supplied

- to BCM terminal 3.
- through key switch terminal 2

When the ignition switch is ON or START, power is supplied

- to BCM terminal 24
- through 10A fuse [No. 4, located in the fuse block (J/B)].

Ground is supplied

- to BCM terminals 2 and 70
- through body ground M19 and M20.

When the front door switch LH (LHD Models) or RH (RHD Models) is ON (door is open), ground supplied

- to BCM terminal 29
- through front door switch LH (LHD Models) or RH (RHD Models) terminal 1
- through front door switch LH (LHD Models) or RH (RHD Models) case ground.

When the front door switch RH (LHD Models) or LH (RHD Models) is ON (door is open), ground supplied

- to BCM terminal 30
- through front door switch RH (LHD Models) or LH (RHD Models) terminal 1
- through front door switch RH (LHD Models) or LH (RHD Models) case ground.

When the rear door switch LH is ON (door is open), ground is supplied

- to BCM terminal 59 (5 door models)
- through rear door switch LH terminal 1
- through rear door switch LH case ground.

When the rear door switch RH is ON (door is open), ground is supplied

- to BCM terminal 60 (5 door models)
- through rear door switch RH terminal 1
- through rear door switch RH case ground.

When the back door switch is ON (back door is open), ground is supplied

- to BCM terminal 10
- through back door switch terminals 1 and 2
- through body grounds B17, B23, B44 and B51.

DOOR LOCK AND UNLOCK SWITCH OPERATION

When door lock/unlock switch is in LOCK position, ground is supplied

- through body grounds B23,B17,B44 and B51
- through door lock/unlock switch terminal 4 and 6
- to BCM (Body Control Module) terminal 6.

With power and ground supplied, doors are locked.
When door lock/unlock switch is in UNLOCK position, ground is supplied

- through body grounds B23,B17,B44 and B51
- through door lock/unlock switch terminal 4 and 5
- to BCM (Body Control Module) terminal 25

With power and ground supplied, all doors are unlocked.

Lock/unlock switch indicated by LED when key in switch is on or on with timer.

KEY REMINDER SYSTEM

- If the ignition key is in the ignition key cylinder and driver door is open, setting door lock/unlock switch, key or remote controller to “LOCK” locks the door once but then immediately unlocks all doors.

UNLOCK LINK FUNCTION

When this function is activated, if the car is door lock/unlock switch locked, opening the drivers repossessing door from the inside handle override will cause the whole car to unlock.

Selectable Function

	Door Lock/unlock switch
How to change setting	Unlock press for more than 4 seconds
contents	Unlock link activate/deactivate
How to confirm	All should have buzzer sound for 0.2 seconds

BACK DOOR OPENER OPERTION

Back door can be opened with back door switch: When all door are unlocked, or When back door request switch pushed (With Intelligent Key system).

CAN Communication

EIS008BZ

SYSTEM DESCRIPTION

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Unit

EIS00AOQ

Go to CAN system, when selecting your car model from the following table.

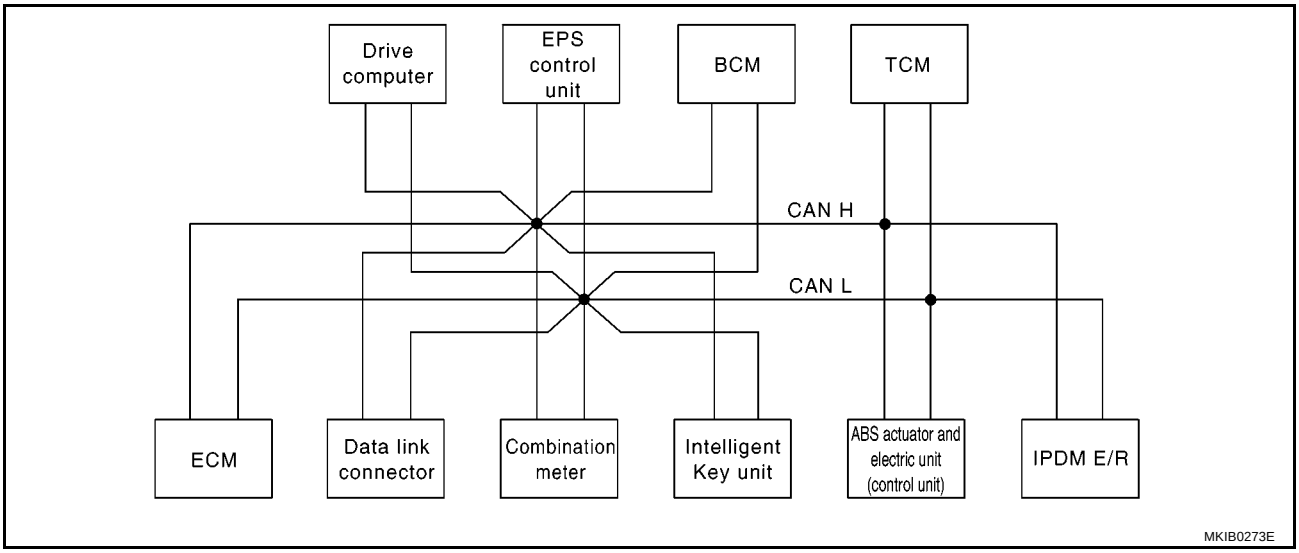
Body type	3door/5door																			
Axle	2WD																			
Engine	CR10DE/CR12DE/CR14DE								CR12DE/CR14DE								K9K			
Handle	LHD/RHD																			
Brake control	ABS system								ESP system								ABS			
Transmission	A/T				M/T				A/T				M/T				M/T			
Intelligent Key system	Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable	
CAN communication unit																				
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Intelligent Key unit	×	×			×	×			×	×			×	×			×	×		
Drive computer	×		×		×		×		×		×		×		×		×		×	
EPS control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×					×	×	×	×								
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	BL-19, "TYPE 1/ TYPE 2"				BL-22, "TYPE 3/ TYPE 4"				BL-24, "TYPE 5/ TYPE 6"				BL-27, "TYPE 7/ TYPE 8"				BL-29, "TYPE 9/ TYPE 10"			

×: Applicable

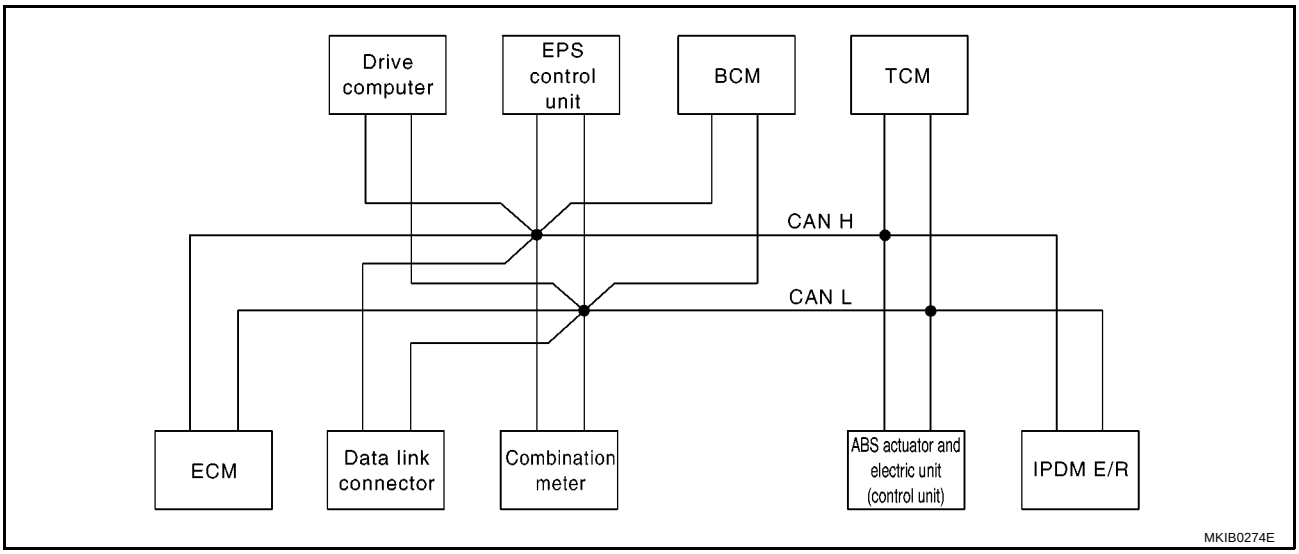
TYPE 1/TYPE 2

System diagram

- Type 1



- Type 2



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R				
Engine coolant temperature signal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T							R	
Closed throttle position signal	T							R	
Wide open throttle position signal	T							R	

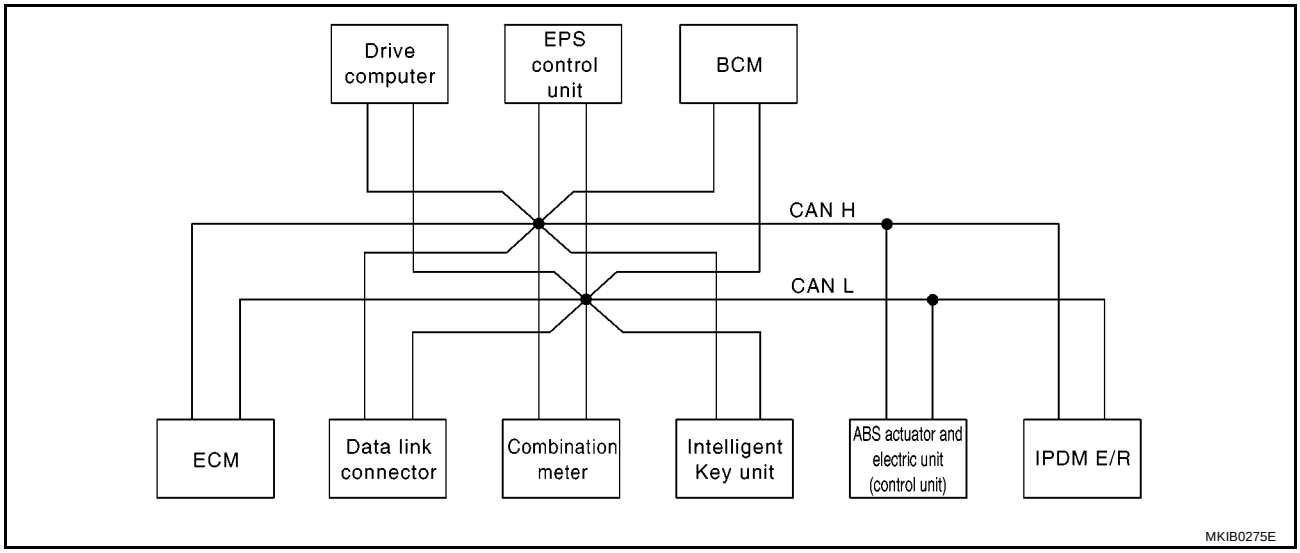
Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
A/T shift position signal		R						T	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ABS operation signal	R						T		
Brake warning lamp signal		R		R			T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

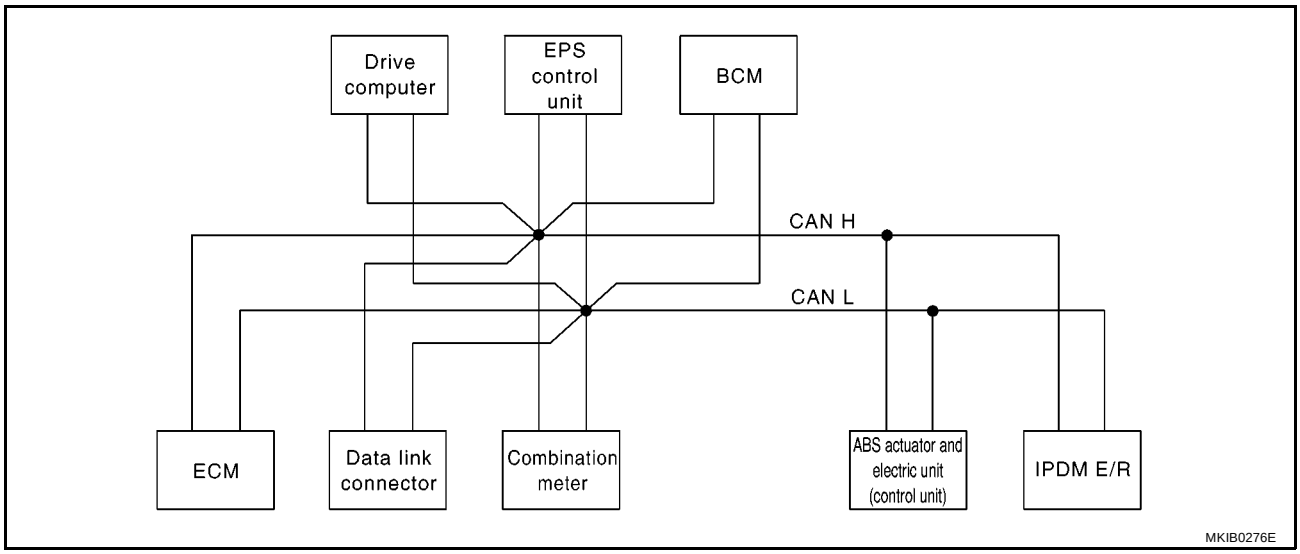
TYPE 3/TYPE 4

System diagram

- Type 3



- Type 4



Input/output signal chart

T: Transmit R: Receive

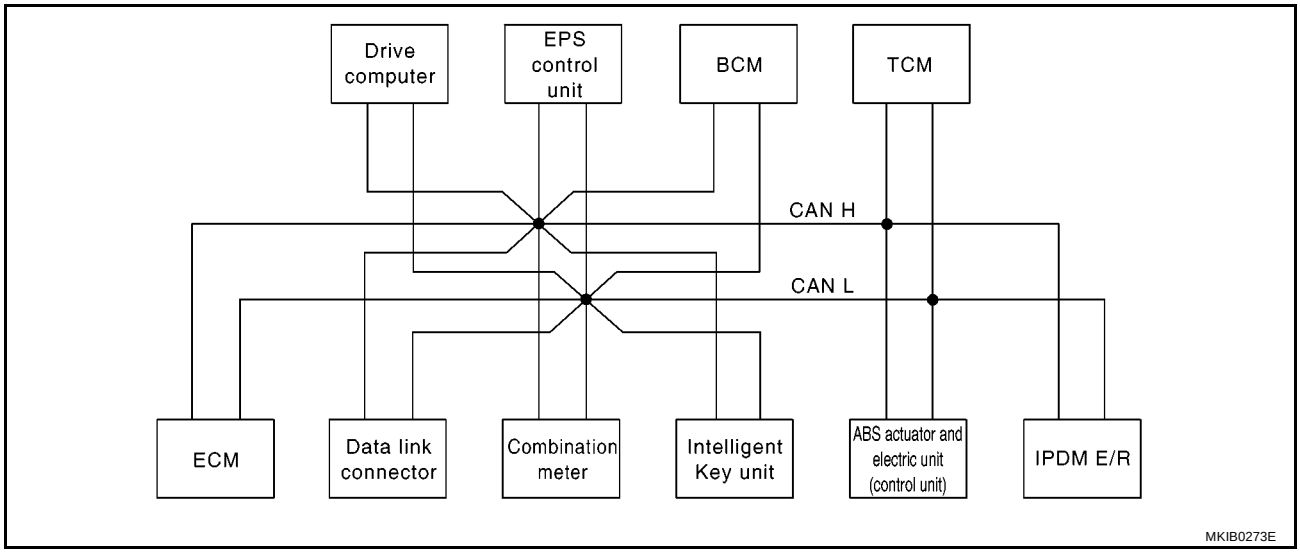
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ABS operation signal	R			R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

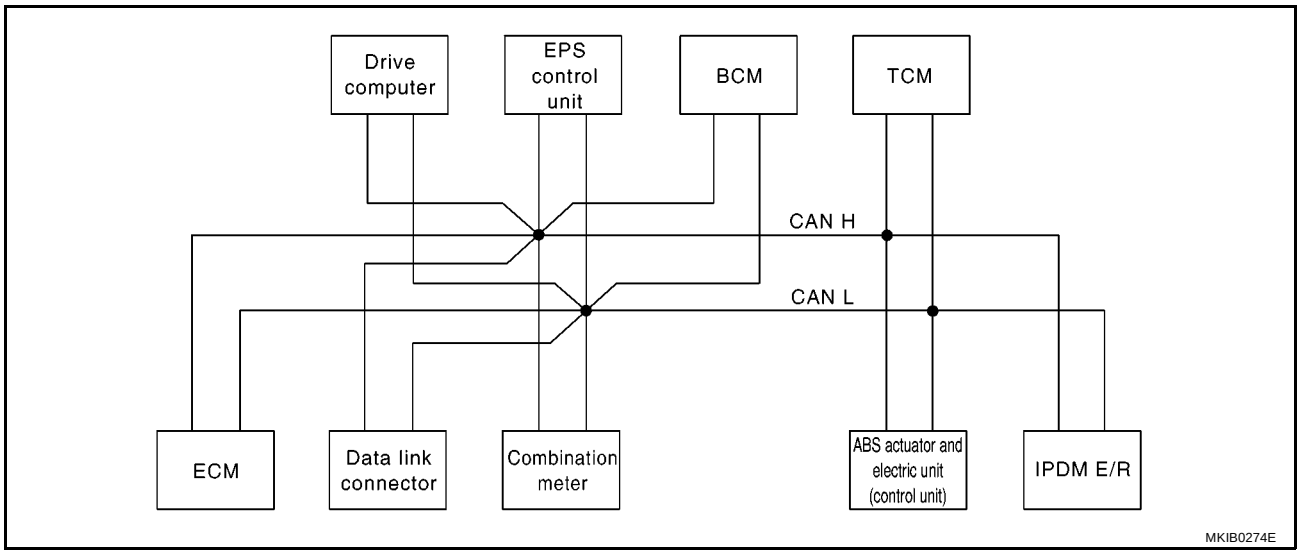
TYPE 5/TYPE 6

System diagram

- Type 5



- Type 6



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R		R		
Engine coolant temperature sig-nal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T						R	R	
Closed throttle position signal	T							R	
Wide open throttle position sig-nal	T						R	R	

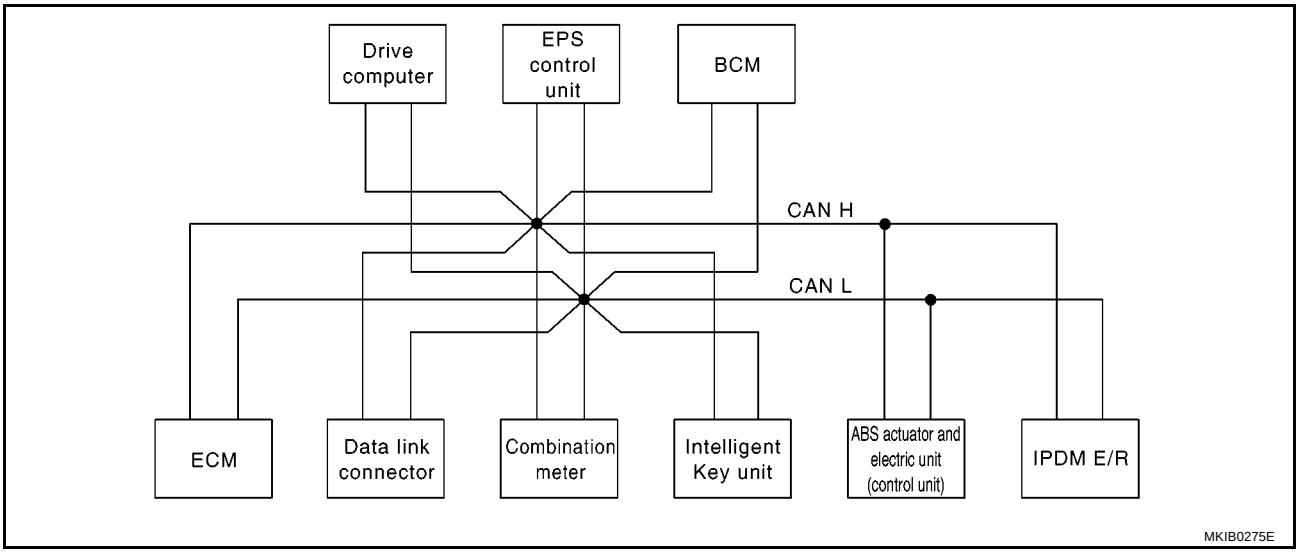
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
A/T shift position signal		R						T	
A/T shift schedule change demand signal							T	R	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
A/C switch signal	R								T
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ESP warning lamp signal		R		R			T		
ESP OFF indicator signal		R					T		
SLIP indicator lamp signal		R					T		

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
ESP operation signal	R						T		
TCS operation signal	R						T		
ABS operation signal	R						T		
Steering angle signal					T		R		
Brake warning lamp signal		R					T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

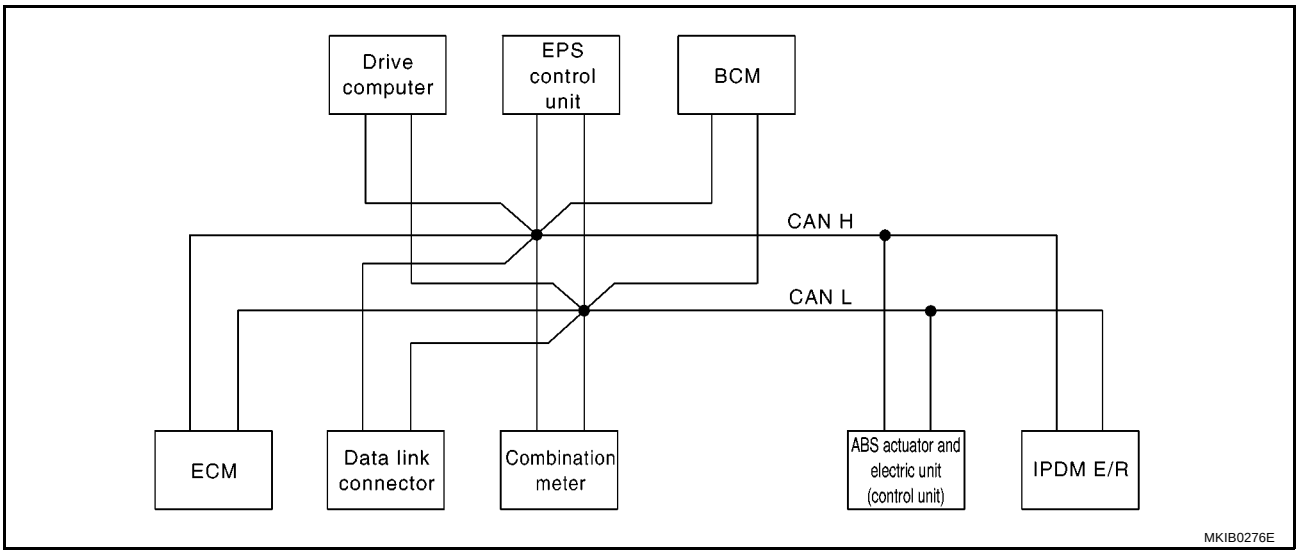
TYPE 7/TYPE 8

System diagram

- Type 7



- Type 8



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R		R	
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Accelerator pedal position signal	T						R	
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
A/C switch signal	R							T
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R

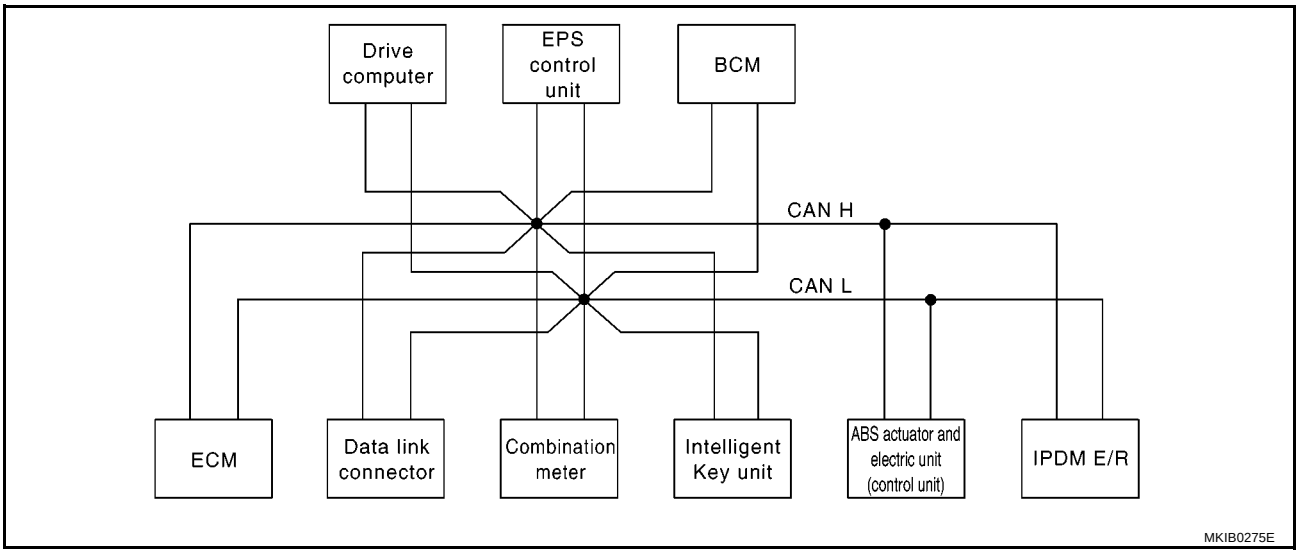
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ESP warning lamp signal		R		R			T	
ESP OFF indicator signal		R					T	
SLIP indicator lamp signal		R					T	
ESP operation signal	R						T	
TCS operation signal	R						T	
ABS operation signal	R						T	
Steering angle signal					T		R	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

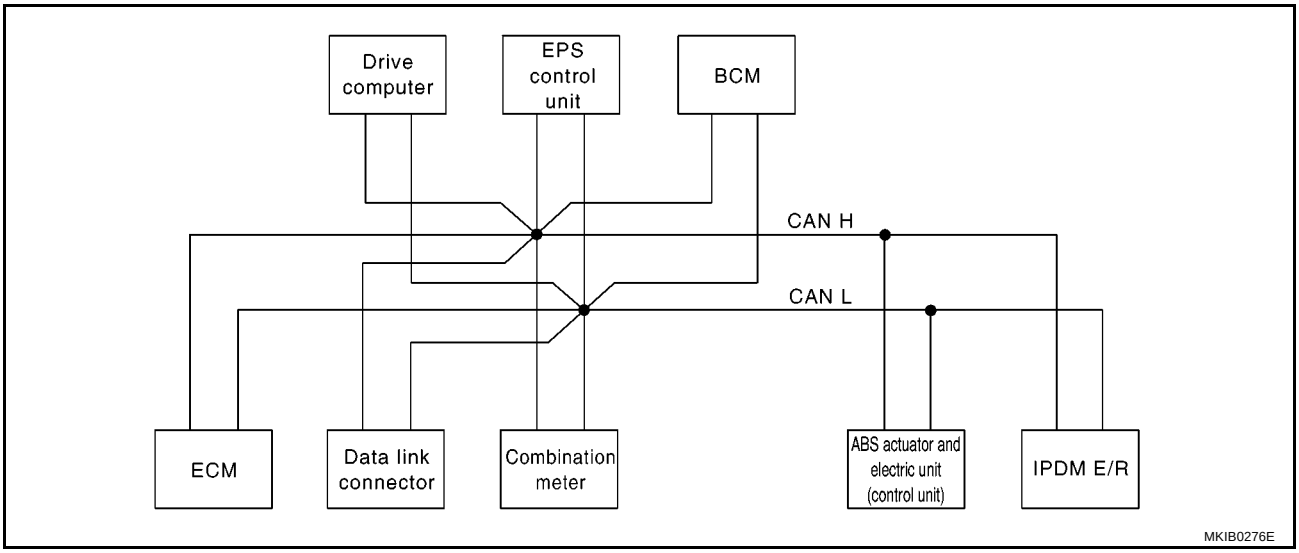
TYPE 9/TYPE 10

System diagram

- Type 9



- Type 10



Input/output signal chart

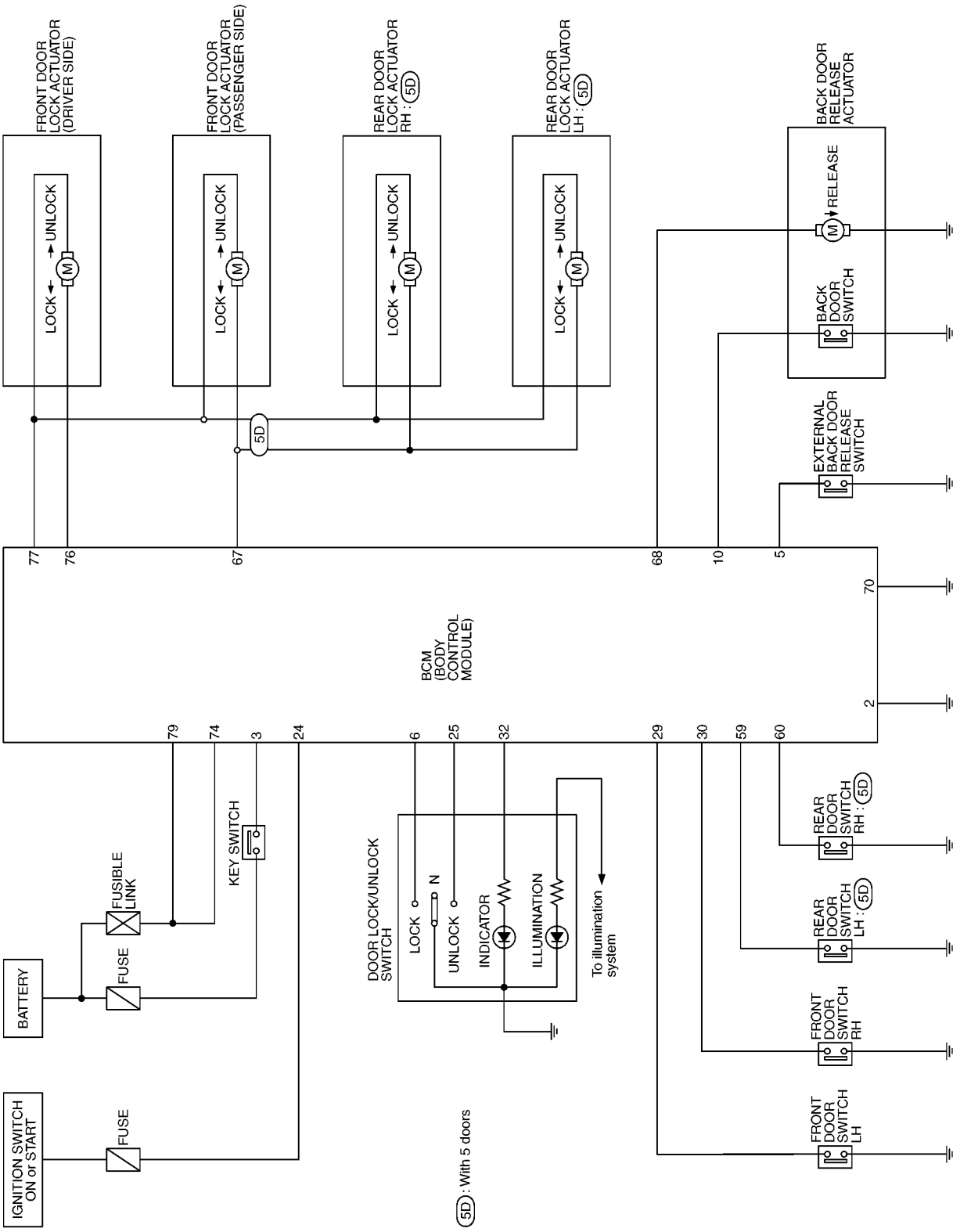
T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R				R		
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Position lights request signal		R		R		T		R
Low beam request signal						T		R
High beam request signal		R				T		R
Day time light request signal						T		R
Vehicle speed signal	R	R			R	R	T	
	R	T	R	R	R			
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ABS operation signal				R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			T			R		
Door lock/unlock status signal			R			T		

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

Schematic – D/LOCK – (Without Intelligent Key System)

EIS00550

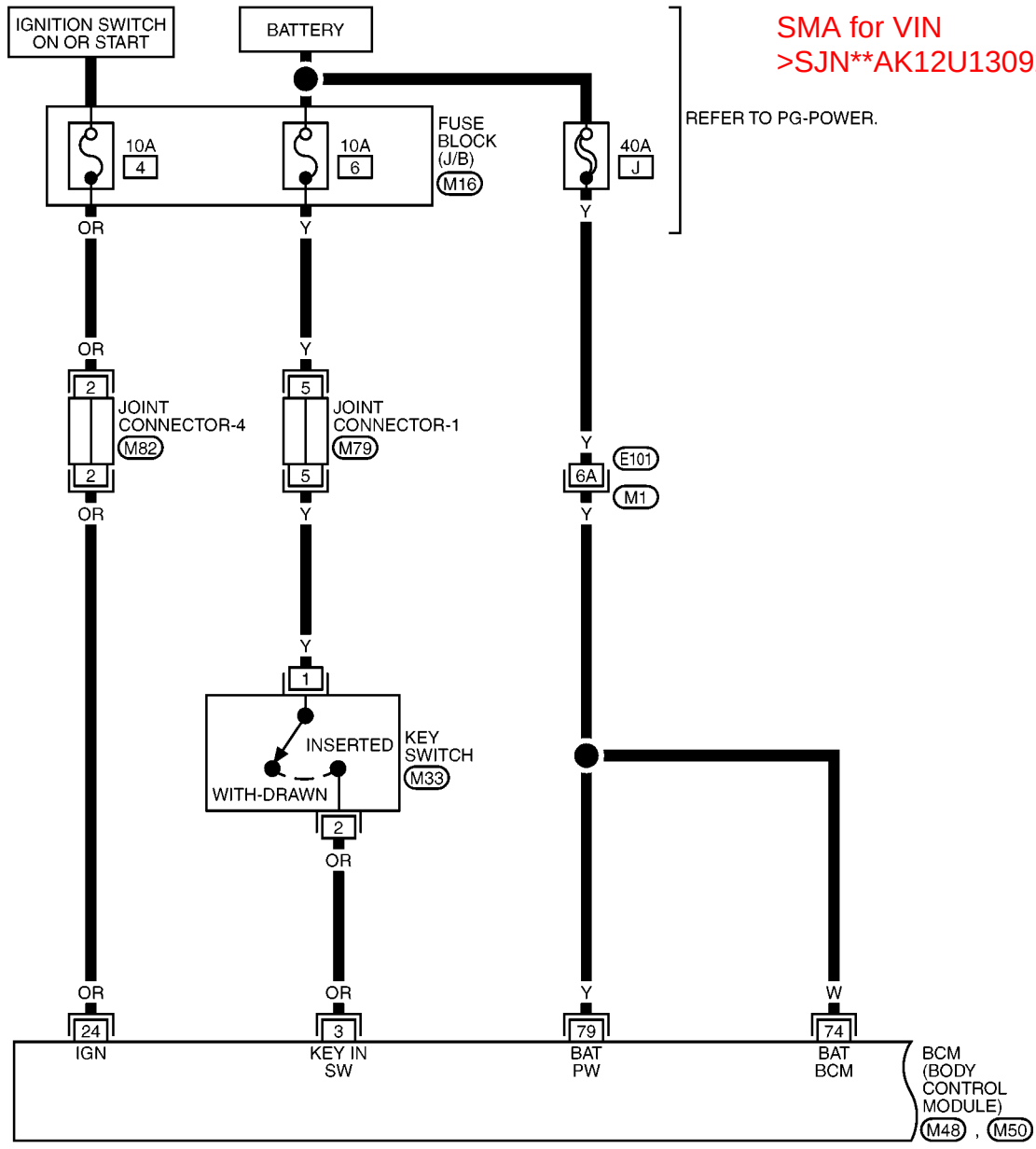


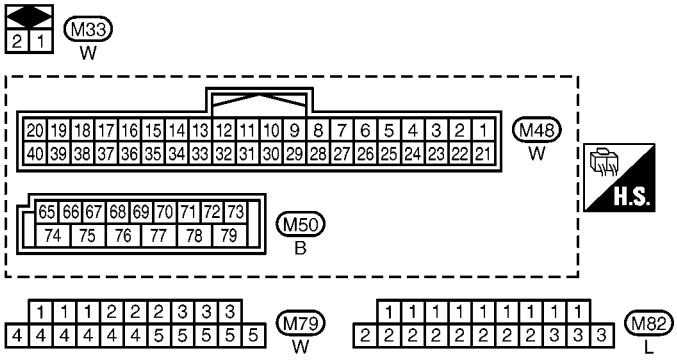
MKWA1773E

Wiring Diagram — D/LOCK — (Without Intelligent Key System)

EIS00551

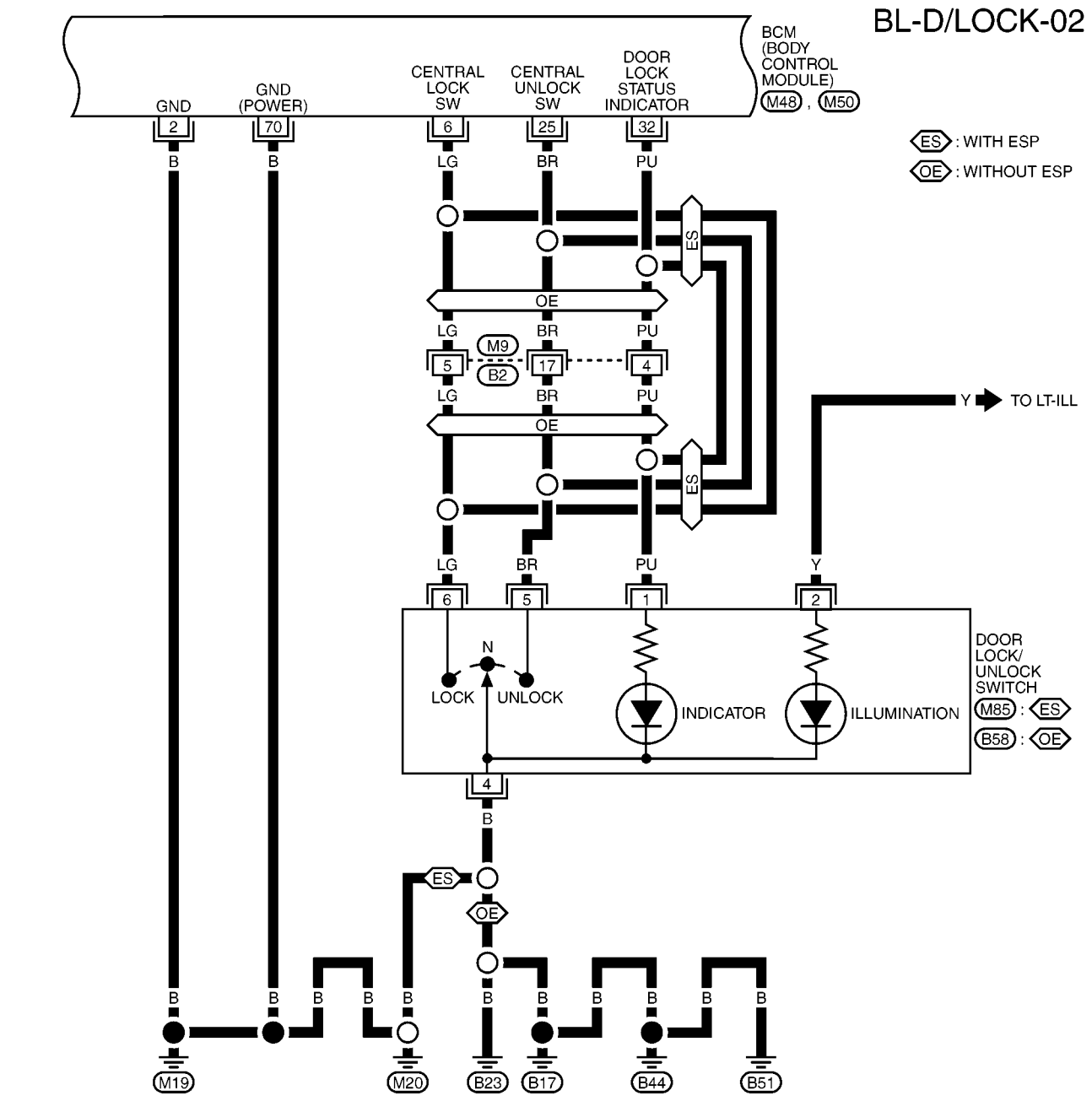
BL-D/LOCK-01

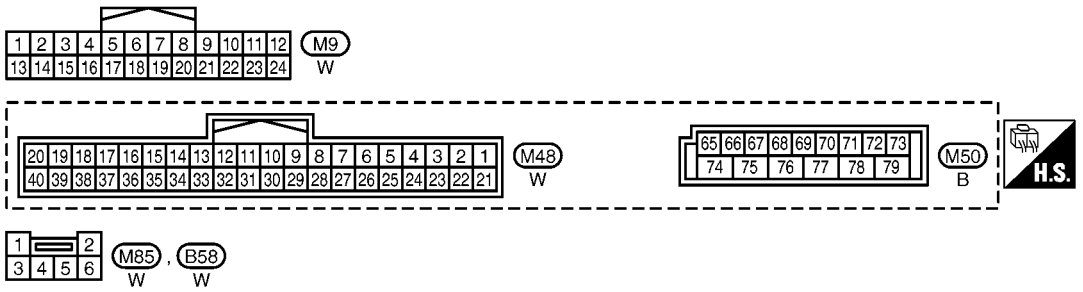




REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)

MKWA1774E

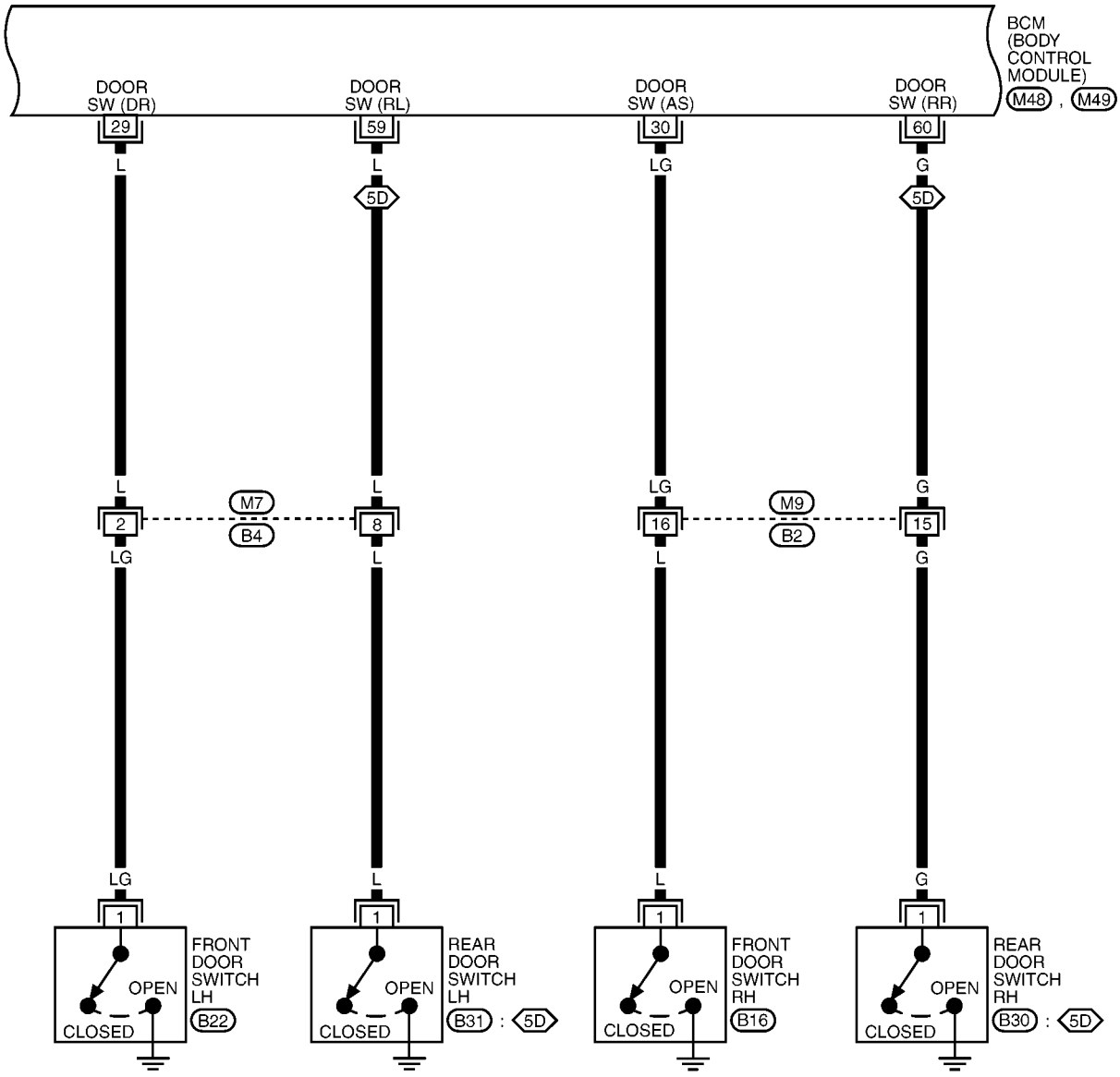

BL-D/LOCK-02
BCM (BODY CONTROL MODULE)
M48 , M50
GND
GND (POWER)
CENTRAL LOCK SW
CENTRAL UNLOCK SW
DOOR LOCK STATUS INDICATOR
2
70
6
25
32
B
B
LG
BR
PU
ES : WITH ESP
OE : WITHOUT ESP
ES
OE
M9
B2
5
17
4
Y
TO LT-ILL
6
5
1
2
N
LOCK
UNLOCK
INDICATOR
ILLUMINATION
DOOR LOCK/ UNLOCK SWITCH
M85 : ES
B58 : OE
4
M19
M20
B23
B17
B44
B51

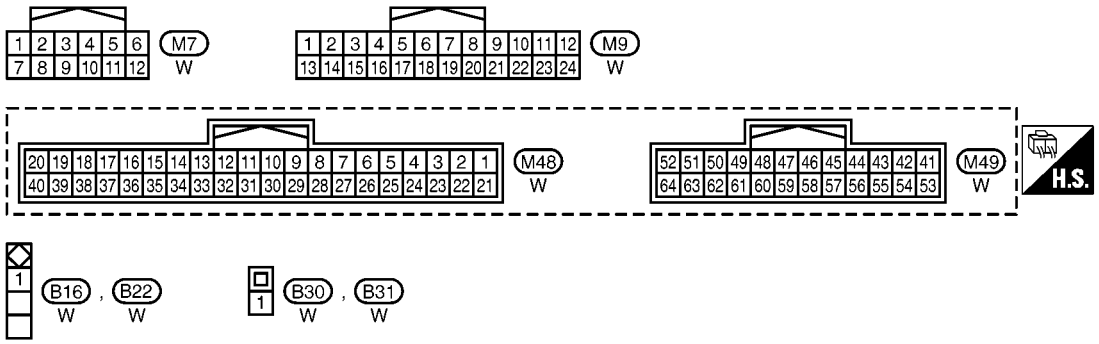

M9
W
M48
W
M50
B
H.S.
M85 , B58
W
W

MKWA1775E

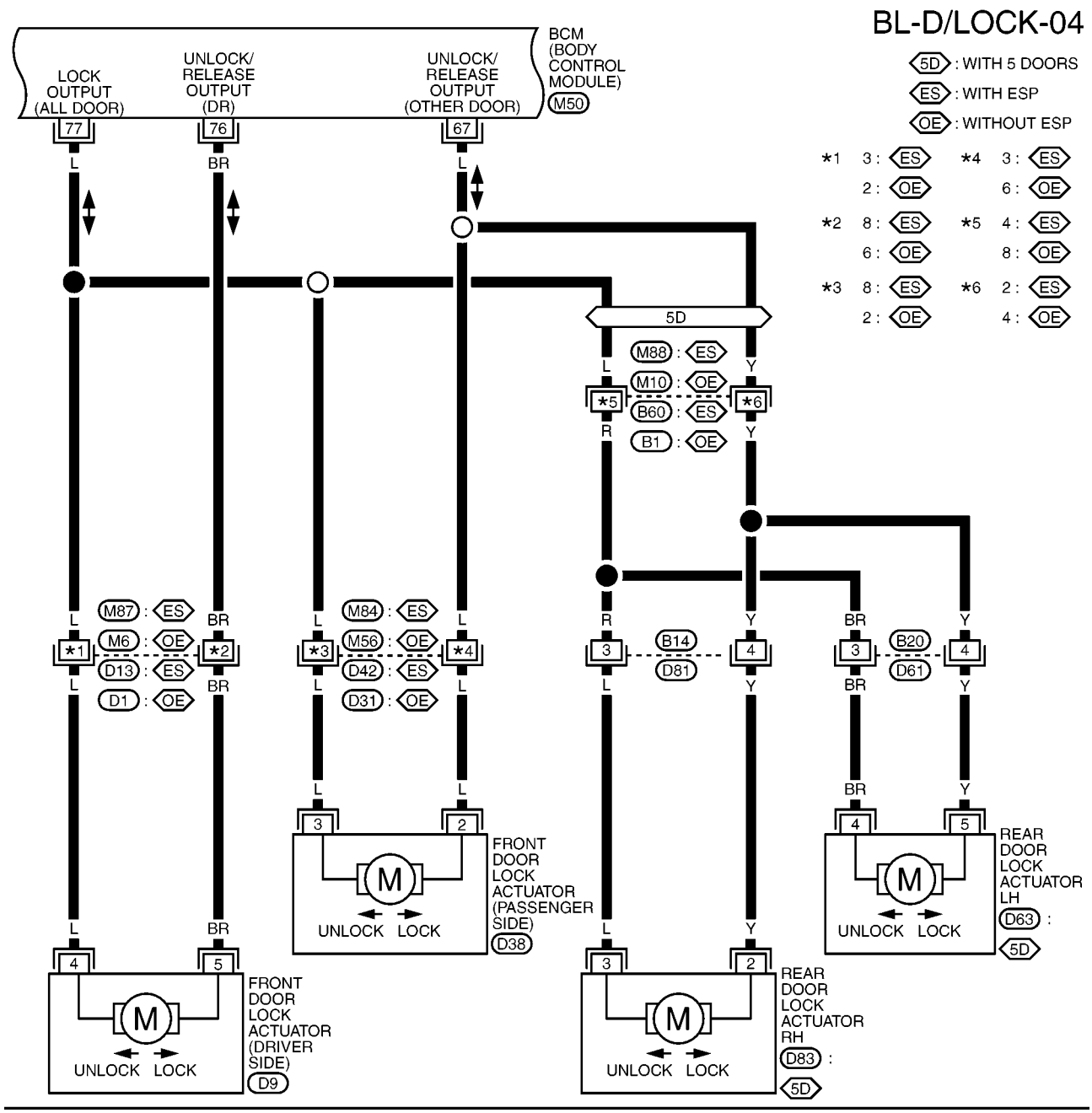
BL-D/LOCK-03

5D : WITH 5 DOORS



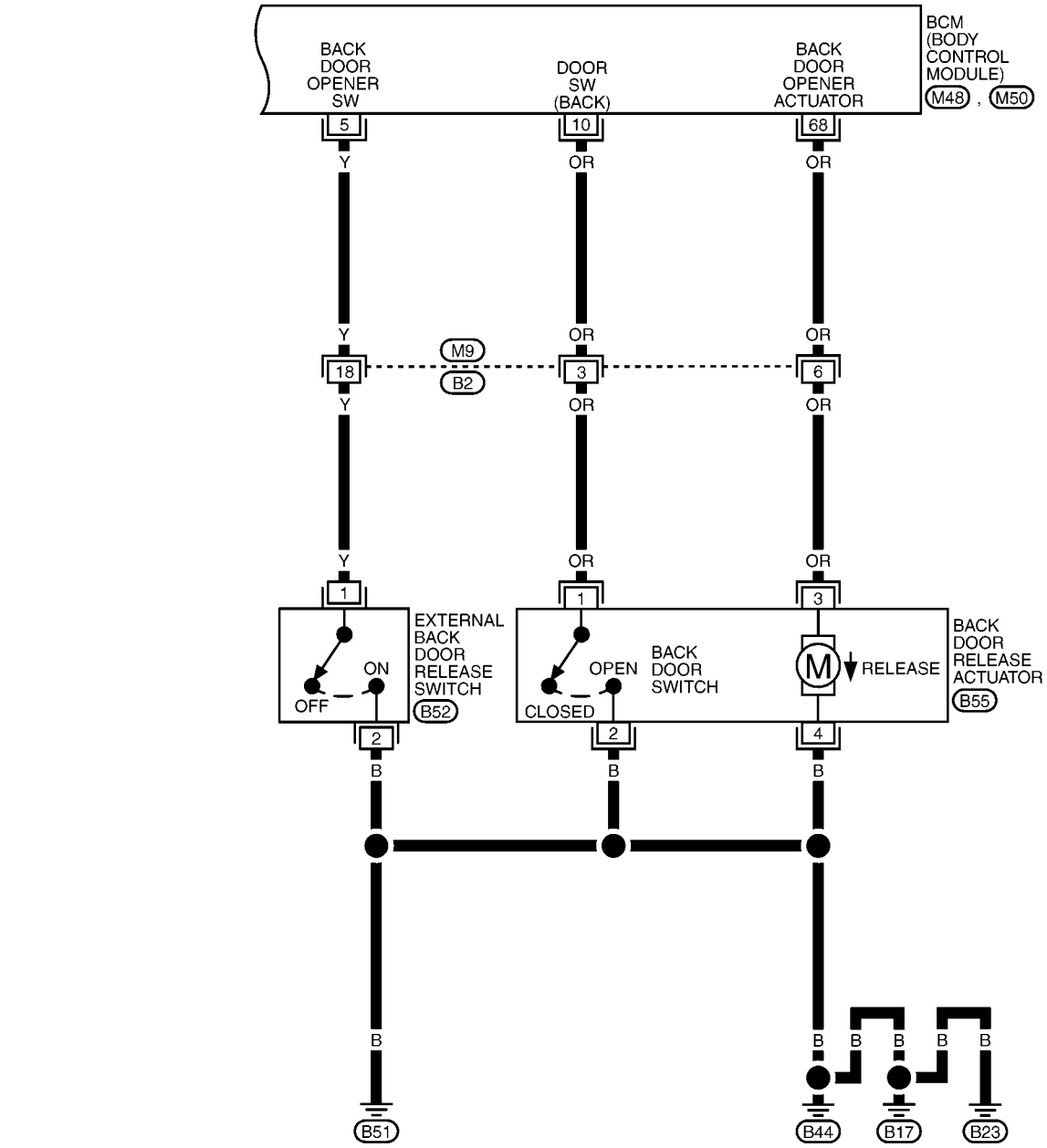


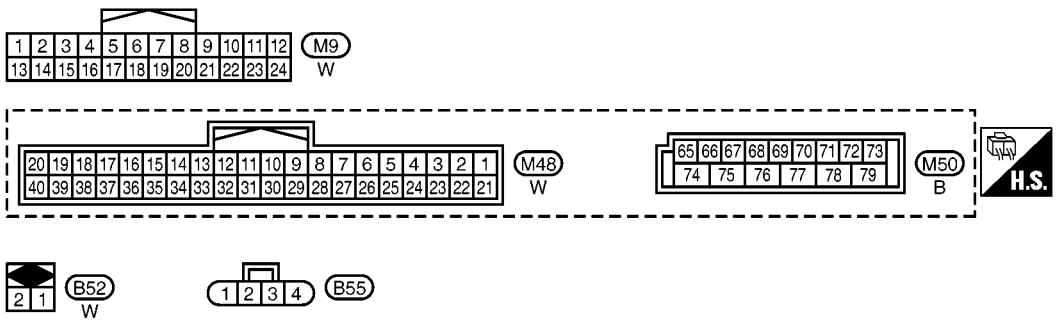
MKWA0865E


BL-D/LOCK-04
5D : WITH 5 DOORS
ES : WITH ESP
OE : WITHOUT ESP
*1 3 : ES 2 : OE
*2 8 : ES 6 : OE
*3 8 : ES 2 : OE
*4 3 : ES 6 : OE
*5 4 : ES 8 : OE
*6 2 : ES 4 : OE
BCM (BODY CONTROL MODULE) M50
LOCK OUTPUT (ALL DOOR) 77
UNLOCK/ RELEASE OUTPUT (DR) 76
UNLOCK/ RELEASE OUTPUT (OTHER DOOR) 67
5D
M88 : ES
M10 : OE
B60 : ES
B1 : OE
M87 : ES
M6 : OE
D13 : ES
D1 : OE
M84 : ES
M56 : OE
D42 : ES
D31 : OE
B14
D81
B20
D61
FRONT DOOR LOCK ACTUATOR (DRIVER SIDE) D9
FRONT DOOR LOCK ACTUATOR (PASSENGER SIDE) D38
REAR DOOR LOCK ACTUATOR RH D83 : 5D
REAR DOOR LOCK ACTUATOR LH D63 : 5D
UNLOCK LOCK
M10 W , D1 W , D31 W
M50 B H.S.
M88 W , D61 W , D81 W
D9 B , D38 B , D63 B , D83 B
D13 W , D42 W

MKWA1776E

BL-D/LOCK-05

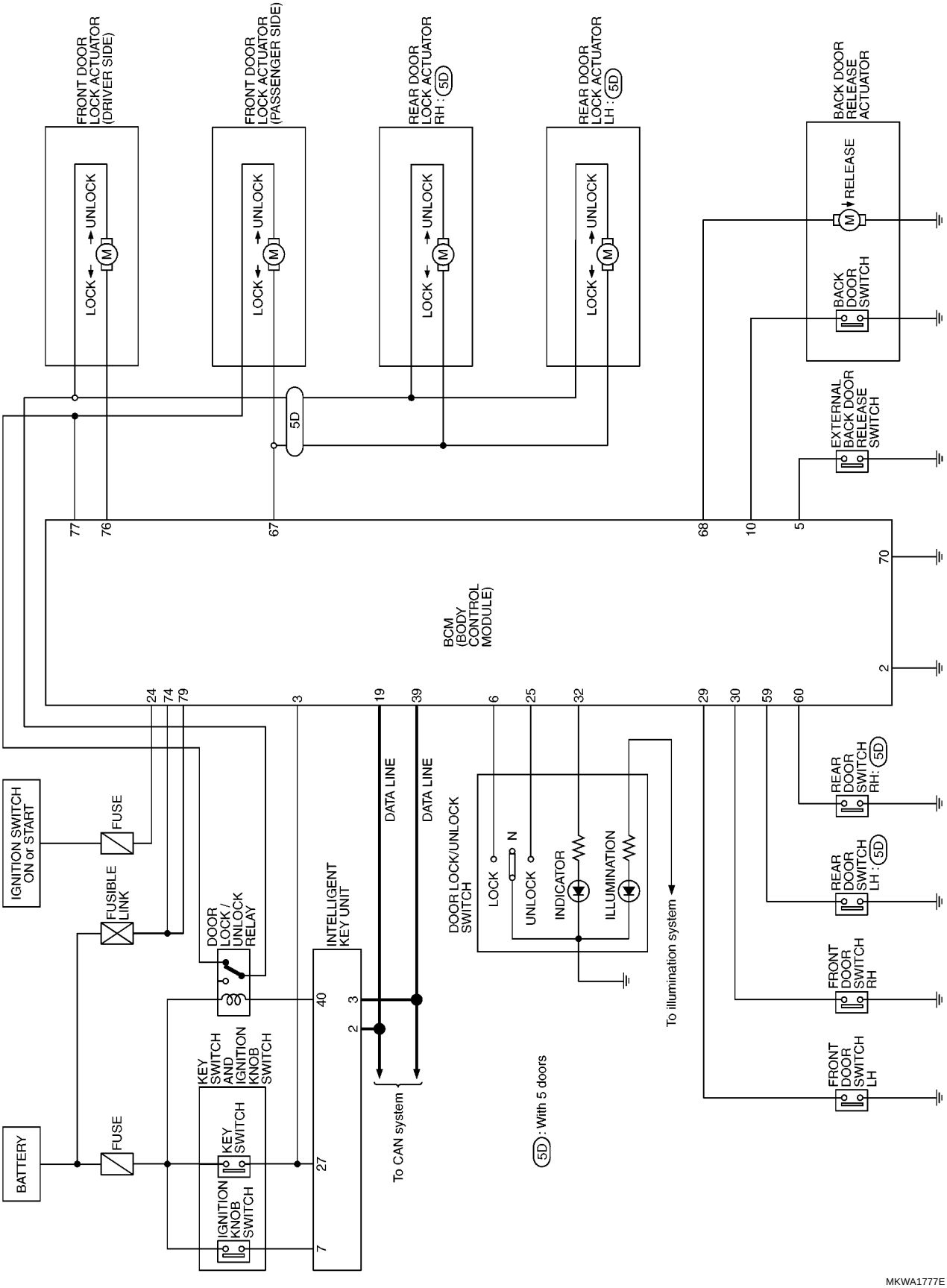




MKWA0867E

Schematic – D/LOCK – (With Intelligent Key System)

EIS00552

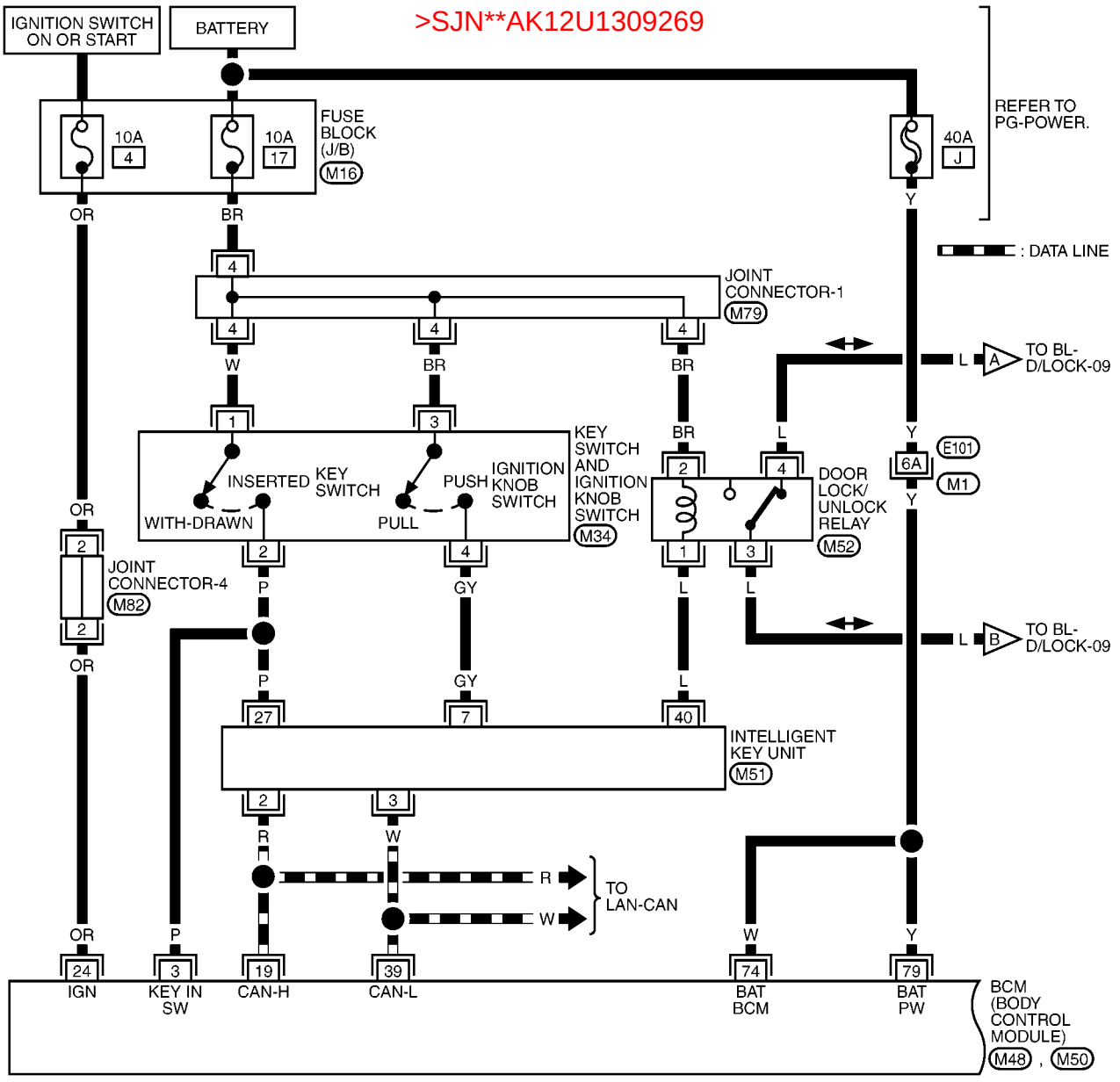


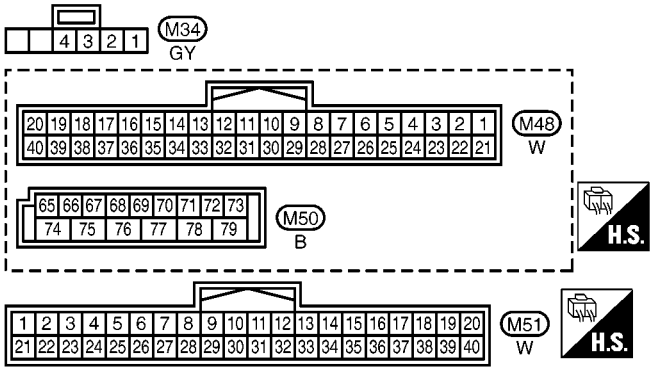
Wiring Diagram — D/LOCK — (With Intelligent Key System)

EIS00553

BL-D/LOCK-06

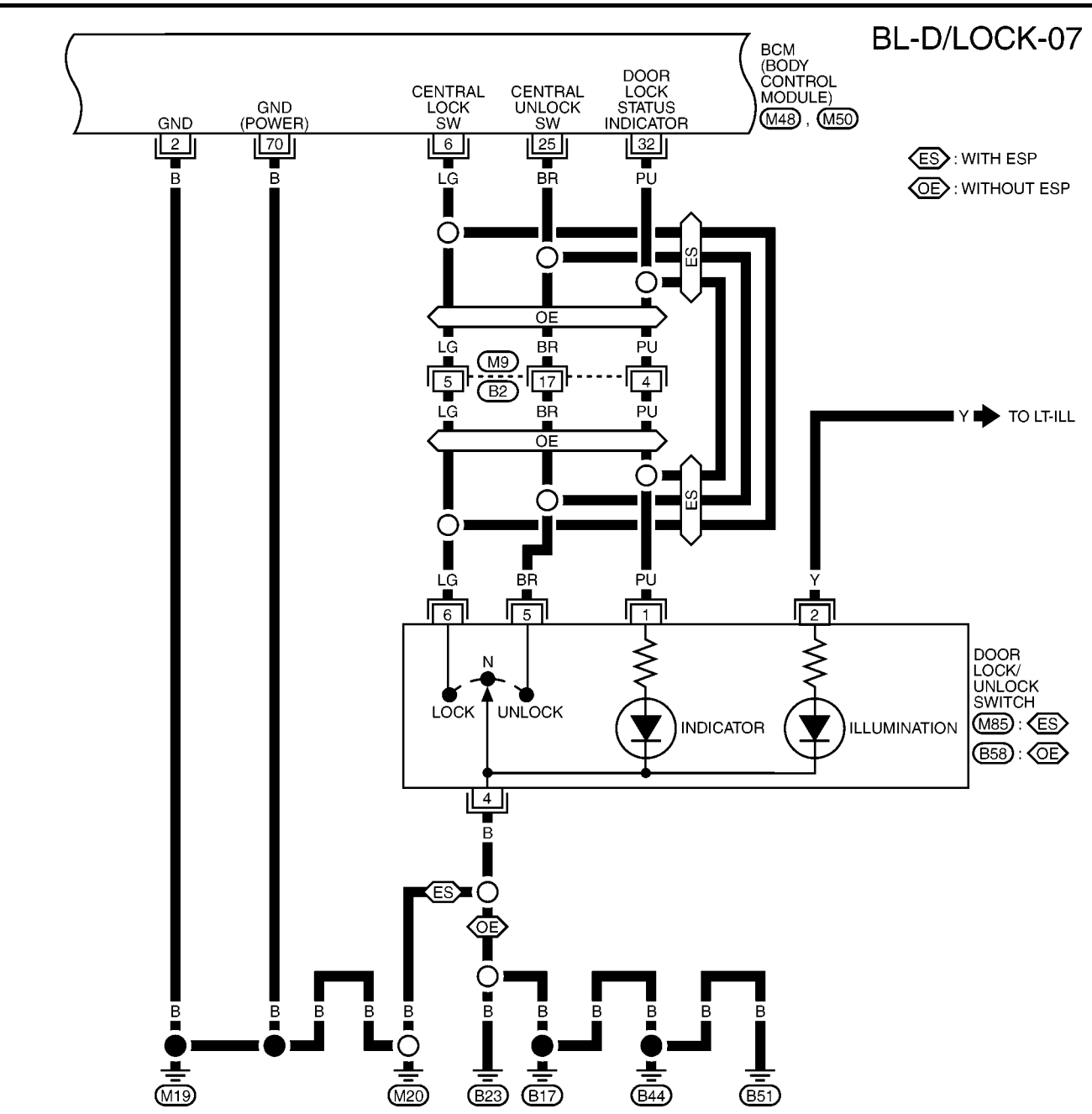
SMA for VIN
>SJN**AK12U1309269

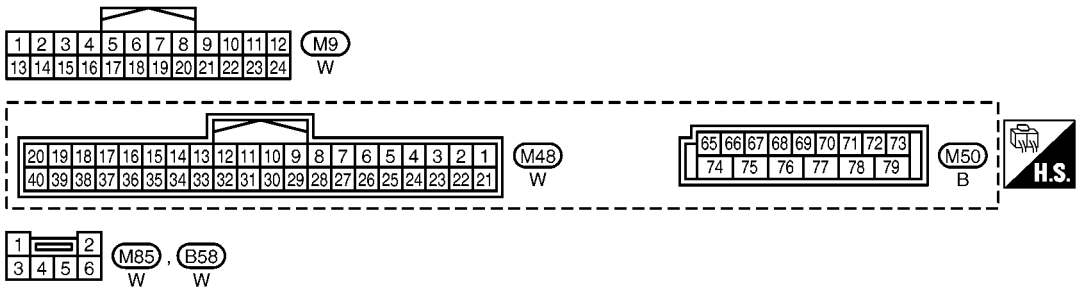




REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)
M79 , M82 -JOINT CONNECTOR (J/C)

MKWA1778E

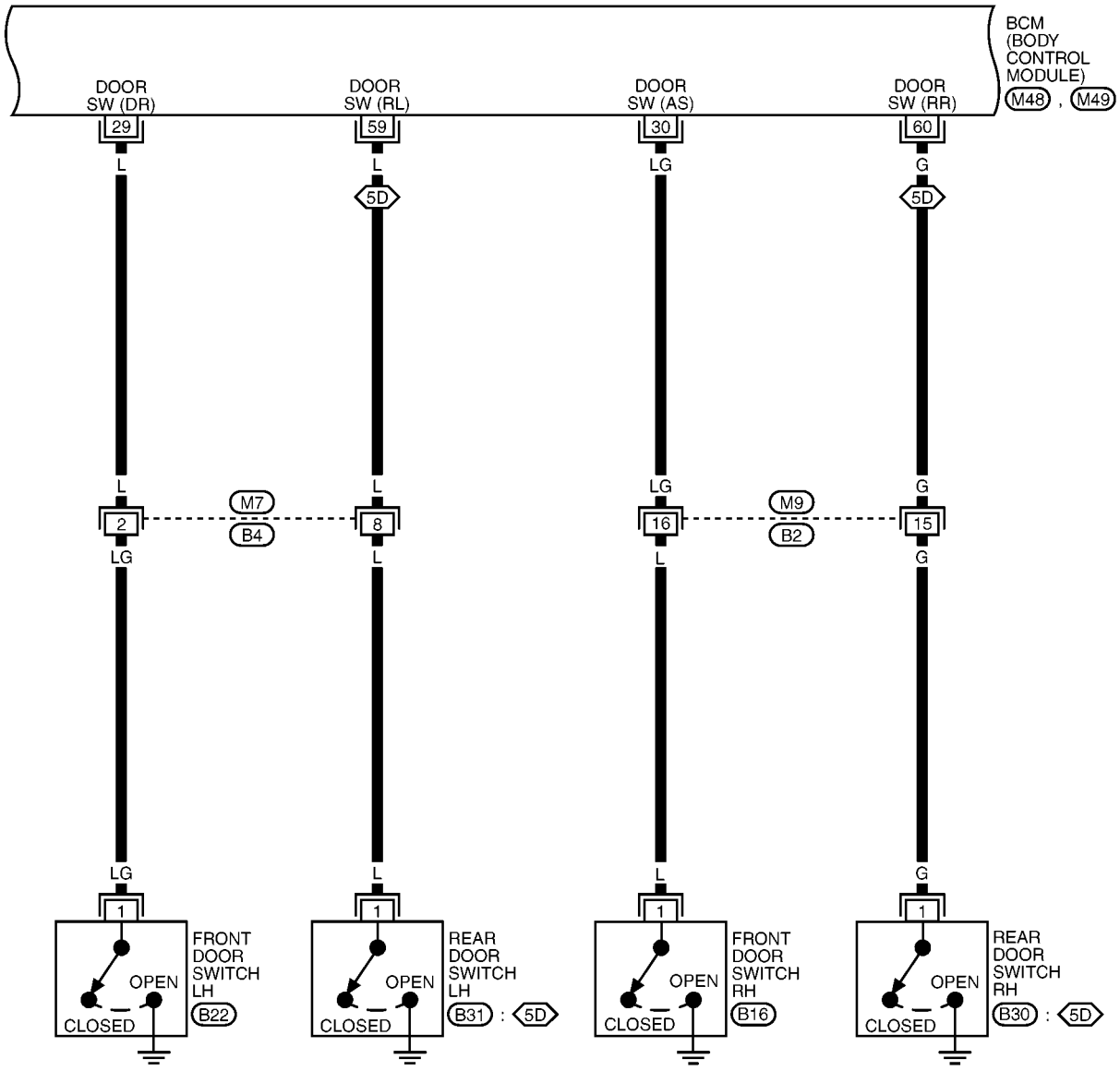

BL-D/LOCK-07
BCM (BODY CONTROL MODULE)
M48 , M50
GND
GND (POWER)
CENTRAL LOCK SW
CENTRAL UNLOCK SW
DOOR LOCK STATUS INDICATOR
2
70
6
25
32
B
B
LG
BR
PU
ES : WITH ESP
OE : WITHOUT ESP
ES
OE
M9
B2
5
17
4
Y
TO LT-ILL
6
5
1
2
N
LOCK
UNLOCK
INDICATOR
ILLUMINATION
DOOR LOCK/ UNLOCK SWITCH
M85 : ES
B58 : OE
4
M19
M20
B23
B17
B44
B51

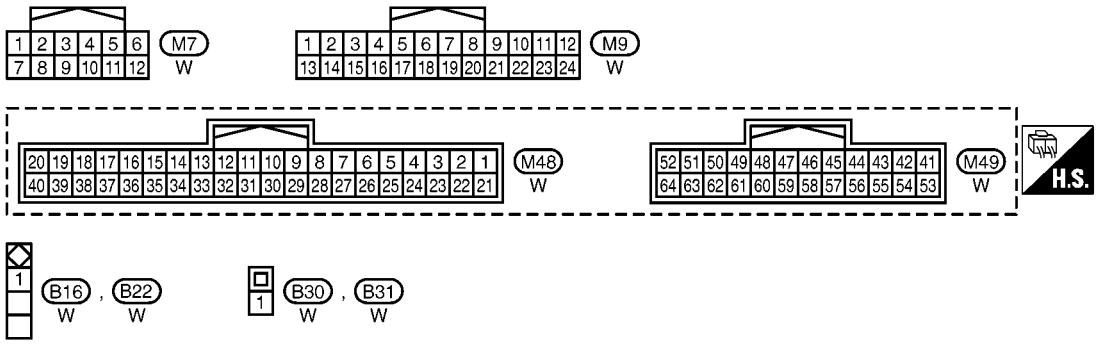

M9
W
M48
W
M50
B
H.S.
M85 , B58
W W

MKWA1779E

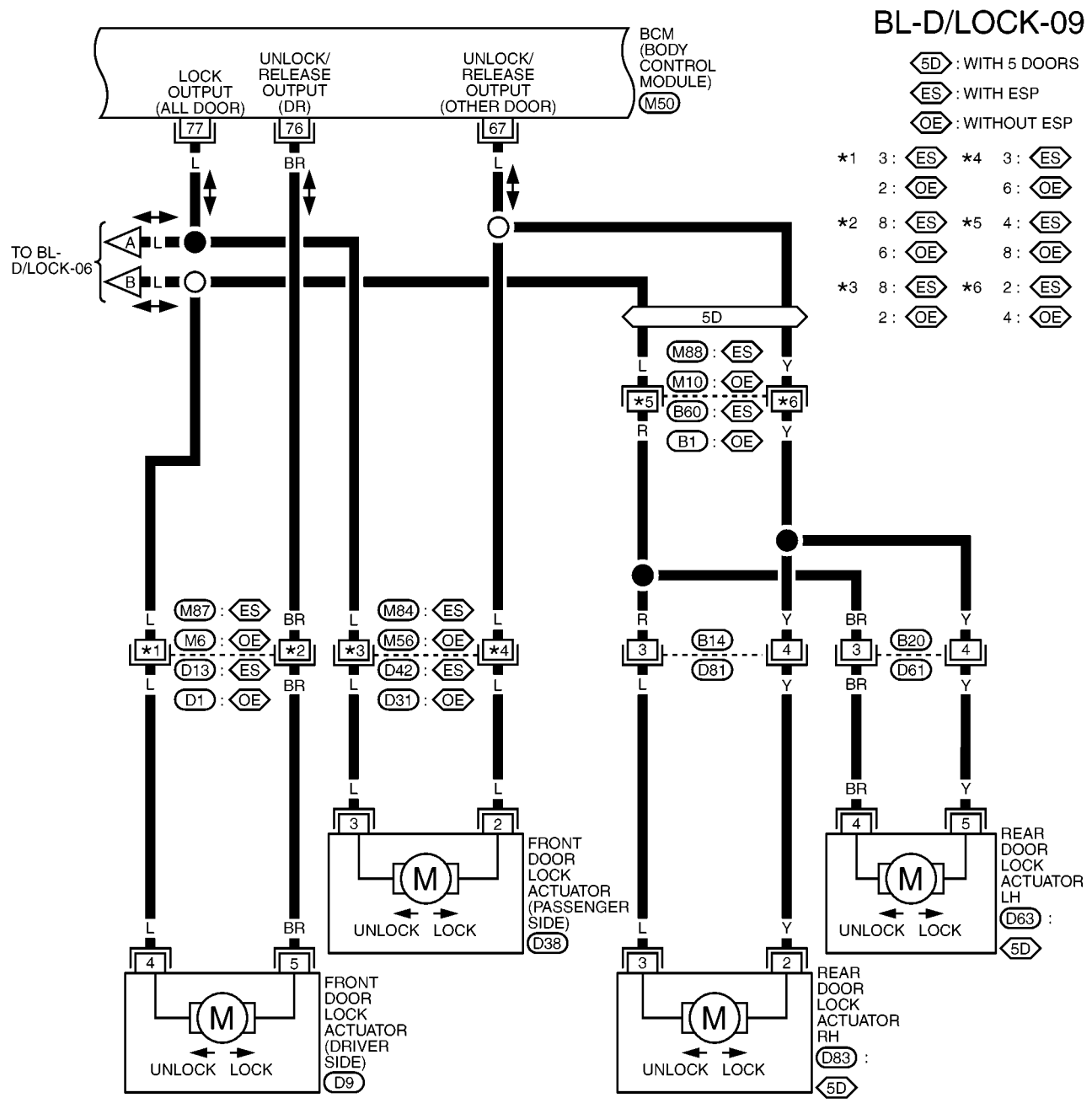
BL-D/LOCK-08

5D : WITH 5 DOORS



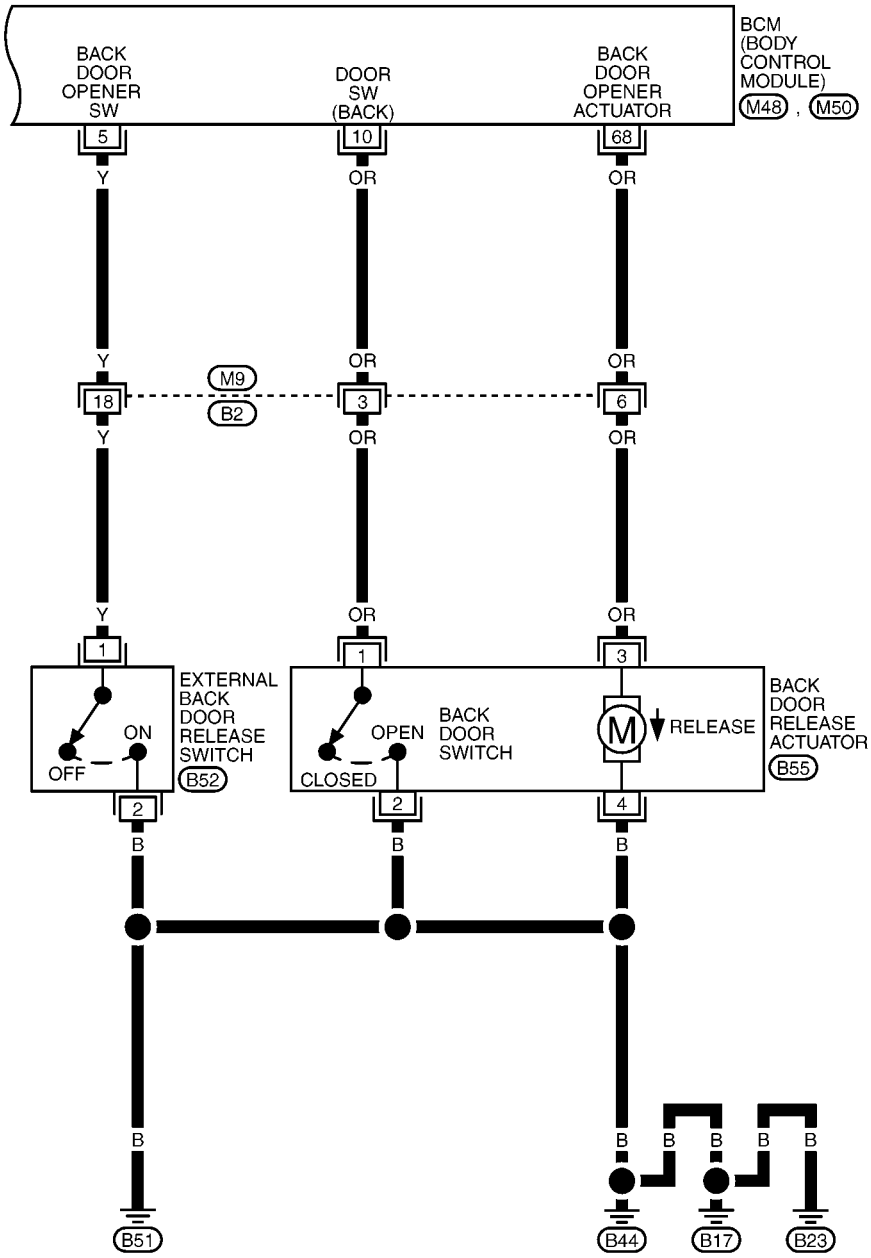


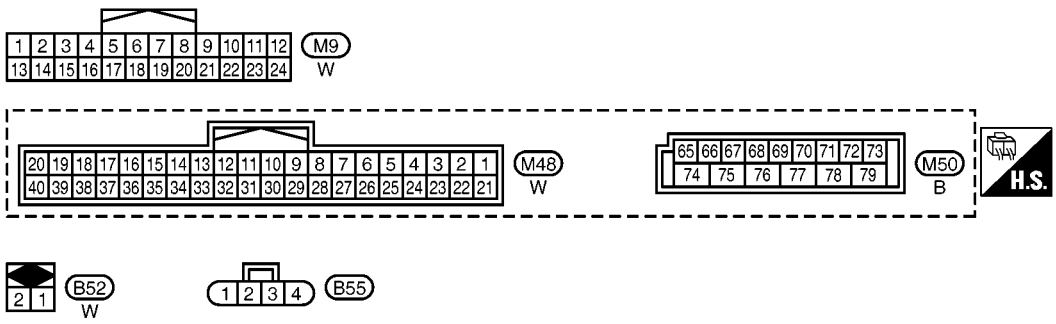
MKWA0871E


BL-D/LOCK-09
5D : WITH 5 DOORS
ES : WITH ESP
OE : WITHOUT ESP
*1 3 : ES 2 : OE
*2 8 : ES 6 : OE
*3 8 : ES 2 : OE
*4 3 : ES 6 : OE
*5 4 : ES 8 : OE
*6 2 : ES 4 : OE
BCM (BODY CONTROL MODULE) M50
LOCK OUTPUT (ALL DOOR)
UNLOCK/ RELEASE OUTPUT (DR)
UNLOCK/ RELEASE OUTPUT (OTHER DOOR)
77
76
67
TO BL-D/LOCK-06
A
B
5D
M88 : ES
M10 : OE
B60 : ES
B1 : OE
M87 : ES
M6 : OE
D13 : ES
D1 : OE
M84 : ES
M56 : OE
D42 : ES
D31 : OE
B14
D81
B20
D61
FRONT DOOR LOCK ACTUATOR (PASSENGER SIDE) D38
FRONT DOOR LOCK ACTUATOR (DRIVER SIDE) D9
REAR DOOR LOCK ACTUATOR RH D83 : 5D
REAR DOOR LOCK ACTUATOR LH D63 : 5D
UNLOCK LOCK
M10 W , D1 W , D31 W
M50 B
M88 W , D61 W , D81 W
D9 B , D38 B , D63 B , D83 B
D13 W , D42 W

MIWA0111E

BL-D/LOCK-10





MKWA0873E

Terminal and Reference Value for BCM

EIS00554

Terminal	Wire color	Item	Condition	Voltage (V) (Approx.)
2	B	Ground	—	0
3	OR *P	Key switch	Key inserted (ON) → key removed from Ignition key cylinder (OFF)	Battery voltage → 0
5	Y	External back door release switch	Release switch open operation	5 → 0
6	LG	Door lock / unlock switch (Lock signal)	Lock operation (ON)	0
			Other than above (OFF)	5
10	OR	Back door switch	Open (ON) → Close (OFF)	0 → 5
19	R	CAN-H	—	—
24	OR	Ignition power supply	Ignition switch (ON or START position)	Battery voltage
25	BR	Door lock/unlock switch (Unlock signal)	Unlock operation (ON)	0
			Other than above (OFF)	5
29	L	Front door switch RH	Door open (ON) → close (OFF)	0 → Battery voltage
30	LG	Front door switch LH	Door open (ON) → close (OFF)	0 → Battery voltage
32	PU	Door lock status indicator	Goes OFF→ Illuminates (Ignition switch ON and all door closed)	0 → Battery voltage
39	W	CAN-L	—	—
59	L	Rear door switch LH	Door open (ON) → close (OFF)	0 → Battery voltage
60	G	Rear door switch RH	Door open (ON) → close (OFF)	0 → Battery voltage
67	L	Door lock actuator unlock (Passenger and rear LH, RH doors)	Door lock / unlock switch Unlock operation	0 → Battery voltage
68	OR	Back door release actuator	Power window main switch (Trunk or back door release switch) Open operation	Battery voltage → 0
70	B	Ground (Power)	—	0
74	W	Battery power supply (BCM)	—	Battery voltage
76	BR	Door lock actuator unlock (DR side door)	Door lock / unlock switch Unlock operation	0 → Battery voltage
77	L	Door lock actuator lock signal (All doors)	Door lock/unlock switch & remote controller lock operation	0 → Battery voltage
79	Y	Battery power supply (Power)	—	Battery voltage

*: With Intelligent Key system models

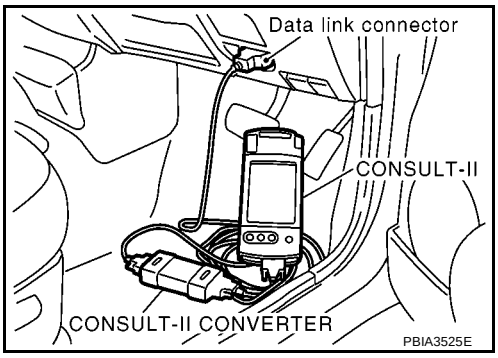
CONSULT- II Inspection Procedure

EIS00555

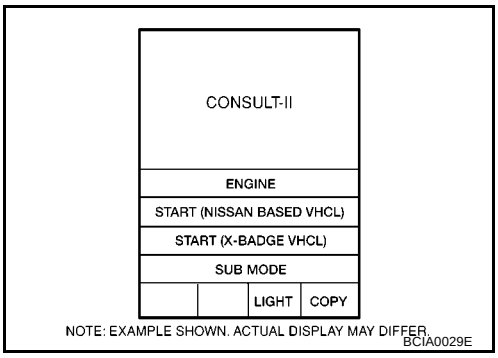
CAUTION:

If CONSULT-II is used with no connector of CONSULT-II CONVERTER, malfunction might be detected in self-diagnosis depending on control which carry out CAN communication.

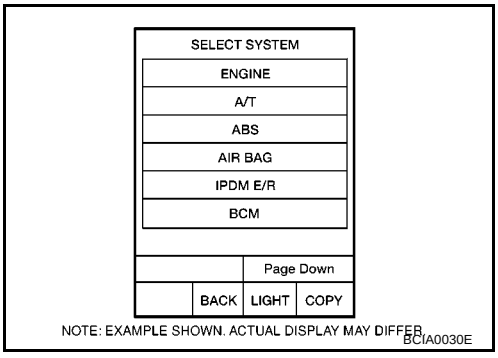
1. Turn ignition switch “OFF”.
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



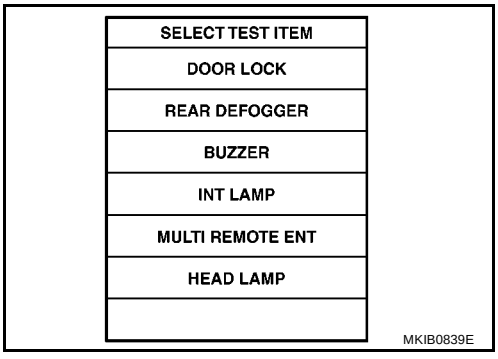
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



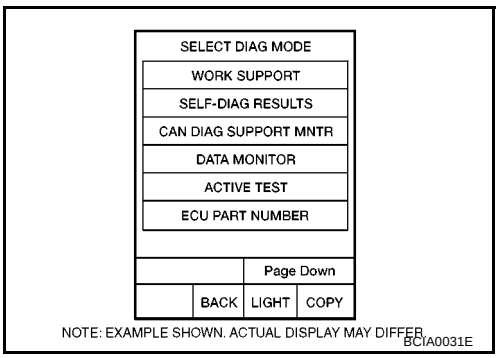
5. Touch “BCM”on “SELECT ITEM” screen. If “BCM” is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “DOOR LOCK”.



7. Touch “WORK SUPPORT”, “DATA MONITOR”,or “ACTIVE TEST” on the “SELECT DIAG MODE” screen.



CONSULT- II Application Items

EIS00556

WORK SUPPORT

Supported Item	Description
SECURITY DOOR LOCK SET	Anti-hijack function mode can be changed in this mode.
AUTO LOCK SET	Auto locking function mode can be changed in this mode.

Security Door Lock Set

	ON	OFF
Anti hijack function	Activation	Deactivation

Auto Lock Set

	MODE1	MODE2	MODE3	MODE4	MODE5	MODE6*	MODE7*	MODE8*
Auto locking function	1 minute	2 minutes	3 minutes	4 minutes	5 minutes	–	–	–

*: These mode are not supported.

DATA MONITOR

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
PUSH SW (*1)	Indicates [ON/OFF] condition of ignition knob switch.
KEY IN SW (*2)	Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/ unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/ unlock switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch LH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch RH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
TRNK OPNR SW	Indicates [ON/OFF] condition of external back door release switch.

*1: Models with Intelligent Key System.
*2: Models without Intelligent Key System.

ACTIVE TEST

Monitored Item	Description
DOOR LOCK	This test is able to check all door lock actuator (except for back door) lock / unlock operation. These actuator lock / unlock when “LOCK” or “UNLOCK” on CONSULT-II screen is touched.
TRUNK / BACK DOOR	This test is able to check back door release actuator open operation. These actuator open when “OPEN” on CONSUT-II screen in touched.

TROUBLE DIAGNOSES CHART BY SYMPTOM/WITHOUT INTELLIGENT KEY SYSTEM

Always check the "Work Flow" before troubleshooting. Refer to Refer to Service Manual

Symptom	Malfunctioning system	Refer to page
Power door lock does not operate with door lock / unlock switch.	1.Check BCM power supply and ground circuit.	BL-49
	2.Check door lock / unlock switch.	BL-50
	3.Check door lock actuator (driver side).	BL-54
	4.Replace BCM.	BCS-31
Specific door lock actuator does not operate.	Check door lock actuator.	BL-54
Front door lock actuator (driver side) does not operate. (All other door lock actuators operate propely)	Check front door lock actuator (driver side).	BL-54
All door lock actuator (except driver side) does not operate.	1.Check door lock actuator circuit.	BL-53
	2. Replace BCM.	BCS-31
Key reminder system does not operate.	1. Check key switch.	BL-51
	2. Check door switch.	BL-58
	3. Replace BCM.	BCS-31
Back door does not open. But power door lock operates properly.	1.Check external back door release switch.	BL-66
	2. Check back door release actuator.	BL-68
	3. Replace BCM.	BCS-31
Door lock/unlock switch indicator does not illumination. (All other door lock system is "OK".	1. Check door lock/unlock switch indicator.	BL-69
	3. Replace BCM.	BCS-31

TROUBLE DIAGNOSES CHART BY SYMPTOM/WITH INTELLIGENT KEY SYSTEM

Always check the "Work Flow" before troubleshooting. Refer to Refer to Service Manual

Symptom	Malfunctioning system	Refer to page
Power door lock does not operate with door lock / unlock switch.	1.Check BCM power supply and ground circuit.	BL-49
	2.Check door lock / unlock switch.	BL-50
	3.Check door lock actuator (driver side).	BL-54
	4.Replace BCM.	BCS-31
Specific door lock actuator does not operate.	Check door lock actuator.	BL-54
Front door lock actuator (driver side) does not operate. (All other door lock actuators operate propely)	Check front door lock actuator (driver side).	BL-54
All door lock actuator (except driver side) does not operate.	1.Check door lock actuator circuit.	BL-53
	2. Replace BCM.	BCS-31
Key reminder system does not operate.	1. Check key switch.	BL-52
	2. Check door switch.	BL-58
	3. Replace BCM.	BCS-31
Back door does not open. But power door lock operates properly.	1.Check external back door release switch.	BL-66
	2. Check back door release actuator.	BL-68
	3. Replace BCM.	BCS-31
Door lock/unlock switch indicator does not illumination. (All other door lock system is "OK".	1. Check door lock/unlock switch indicator.	BL-69
	3. Replace BCM.	BCS-31
All door lock actuator (except passenger side) does not operate.	1. Check door lock/unlock relay circuit.	BL-69

Check Power Supply and Ground Circuit of BCM

EIS00558

First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, then perform the each trouble diagnosis of malfunction system indicated “SELF-DIAG RESULTS” of “BCM”, Refer to BCS-22, "CONSULT-II Function (BCM)".

1. FUSE INSPECTION

- Check 10A fuse [No.4, located in fuse block (J/B)]
- Check 40A fusible link (letter **J** located in the fuse and fusible link box).

NOTE:
Refer to BL-15, "Component Parts and Harness Connector Location" .

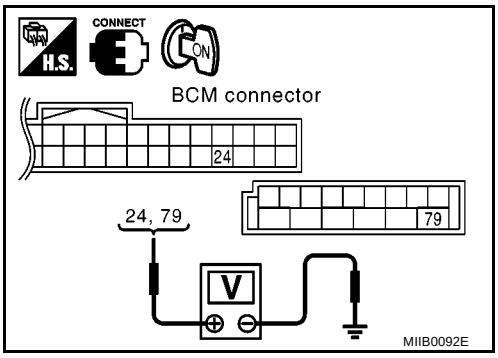
OK or NG

OK >> GO TO 2
NG >> If fuse is blown out, be sure to eliminate cause of malfunction before installing new fuse. Refer to.PG-4, "POWER SUPPLY ROUTING"

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between BCM connector M48, M50 terminal 24, 79 and ground.

24 (OR) – Ground :Battery voltage.
79 (Y) – Ground :Battery voltage.



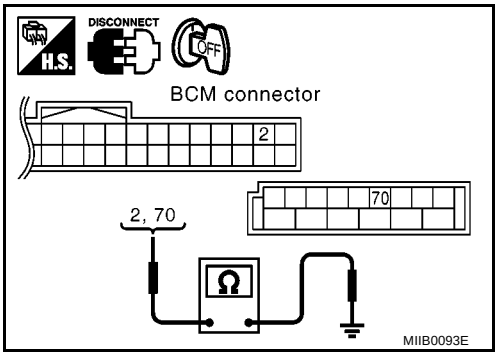
OK or NG

OK >> GO TO 3
NG >> Check BCM power supply circuit for open or short.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM connector M48, M50 terminal 2, 70 and ground.

2 (B) – Ground :Continuity should exist.
70 (B) – Ground :Continuity should exist.



OK or NG

OK >> Power supply and ground circuit is OK.
NG >> Check BCM ground circuit for open or short.

Check Door Lock / Unlock Switch

EIS00559

1. CHECK DOOR LOCK / UNLOCK SWITCH SIGNAL

With CONSULT- II

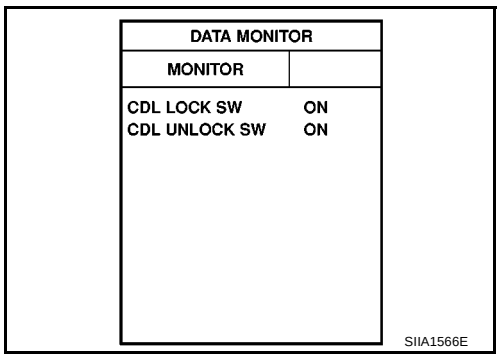
Check door lock / unlock switch input signal (“CDL LOCK SW” “CDL UNLOCK SW”) in “DATA MONITOR” mode with CONSULT- II.

When door lock/unlock switch is turned to LOCK:

CDL LOCK SW ⇒ ON

When door lock/unlock switch is turned to UNLOCK:

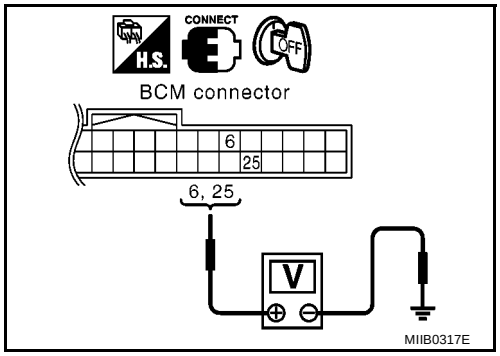
CDL UNLOCK SW ⇒ ON



Without CONSULT- II

Door lock / unlock switch operate, check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	6 (LG)	Ground	Lock	0
			Neutral / Unlock	5
	25 (BR)		Unlock	0
			Neutral / Lock	5



OK or NG

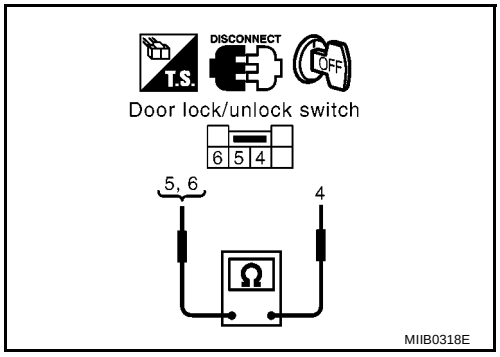
OK >> Door lock / unlock switch is OK.

NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect door lock / unlock switch connector.
3. Check continuity between door lock / unlock switch terminals 5, 6 and 4.

Terminals		Condition	Continuity
5	4	Unlock	Yes
		Neutral / Lock	No
6		Lock	Yes
		Neutral / Unlock	No



OK or NG

OK >> Check the following.

- Ground circuit for door lock / unlock switch
- Harness for open or short between BCM and door lock / unlock switch.

NG >> Replace door lock / unlock switch.

Check Key Switch /Without Intelligent Key System

EIS0055A

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check key switch input signal “KEY IN SW” in “DATA MONITOR” mode with CONSULT- II.

When key is inserted in ignition key cylinder:

KEY IN SW ⇒ ON

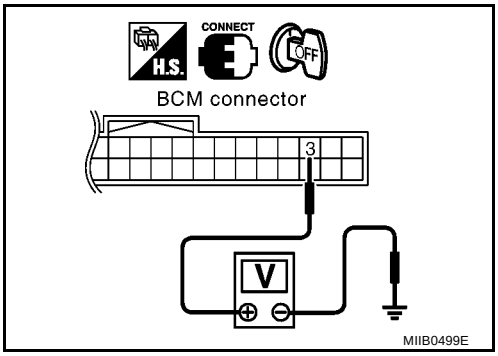
When key is removed from ignition key cylinder:

KEY IN SW ⇒ OFF

Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	3 (OR)	Ground	Key is inserted	Battery voltage
			Key is removed	0



OK or NG

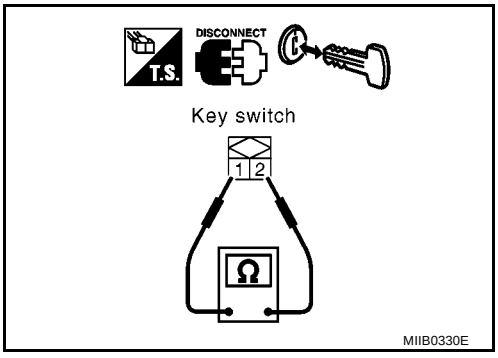
OK >> Key switch is OK.

NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

1. Turn ignition switch OFF.
2. Disconnect key switch connector.
3. Check continuity between key switch terminals 1 and 2.

Terminals		Condition	Continuity
1	2	Key is inserted	YES
		Key is removed	NO



OK or NG?

OK >> Check the following.

- 10A fuse [No. 6, located in fuse block (J/B)].
- Harness for open or short between key switch and fuse.
- Harness for open or short between BCM and key switch.

NG >> Replace key switch.

Check Key Switch/With Intelligent Key System

EIS0056D

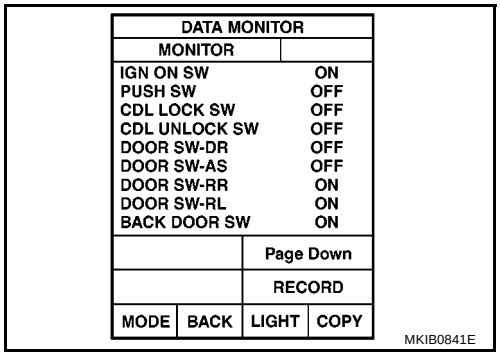
1. KEY SWITCH INSPECTION

With CONSULT-II

Display “PUSH SW” on DATA MONITOR screen, and check if ON-OFF display is linked to ignition knob switch operation.

When ignition knob is pushed : PUSH SW ON

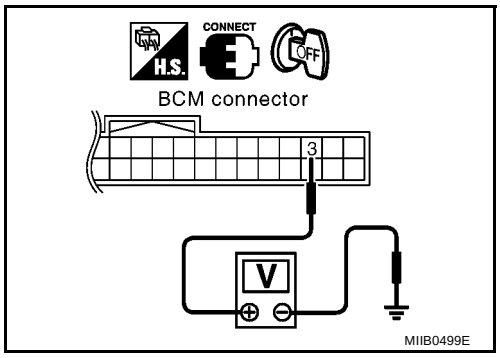
When ignition knob is released : PUSH SW OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	3 (OR)	Ground	Key is inserted	Battery voltage
			Key is removed	0



OK or NG

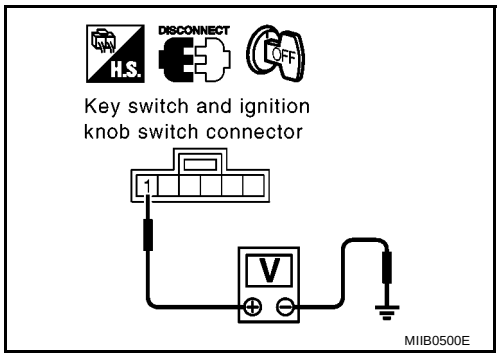
OK >> Key switch is OK.

NG >> GO TO 2.

2. KEY SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Remove mechanical key from ignition knob.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch connector M34 terminal 1 and ground.

1 (W) - Ground : Approx. 12V



OK or NG

OK >> GO TO 3.

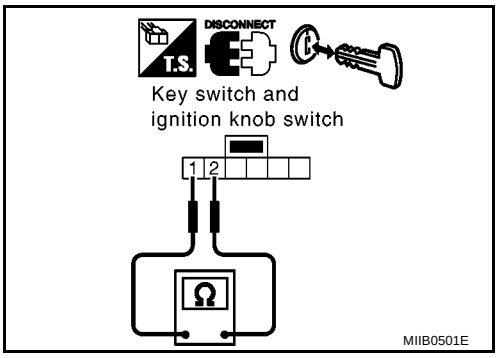
NG >> Repair or replace key switch power supply circuit.

3. KEY SWITCH OPERATION INSPECTION

1. Insert mechanical key into ignition knob.
2. Check continuity between key switch and ignition knob switch connector M34 terminal 1 and 2.

1 - 2

Insert mechanical key into ignition knob.	**: Continuity should exist.**
Remove mechanical key from ignition knob.	**: Continuity should not exist.**



OK or NG

OK >> GO TO 4.
NG >> Replace key switch.

4. KEY SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M51 terminal 27 and key switch and ignition knob switch connector M34 terminal 2.

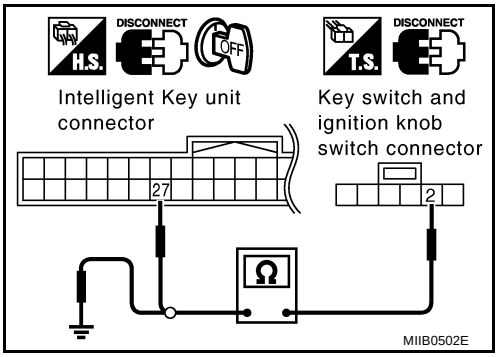
27 (P) - 2 (P) : Continuity should exist.

3. Check continuity between key switch connector M34 terminal 2 and ground.

2 (P) - Ground : Continuity should not exist.

OK or NG

OK >> Key switch is OK.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.



Check Door Lock Actuator Circuit.

EIS0055B

1. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 67 and front door lock actuator (passenger side) connector D38 terminal 2.

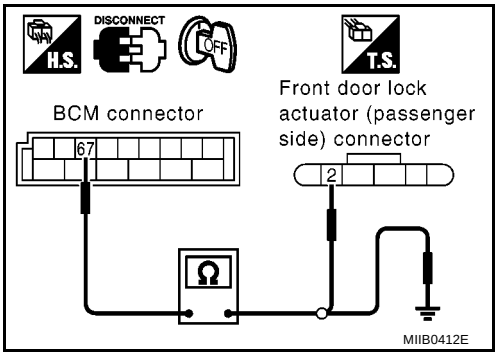
67 (L) – 2 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 67 and ground.

67 (L) – Ground : Continuity should not exist.

OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.



Check Door Lock Actuator

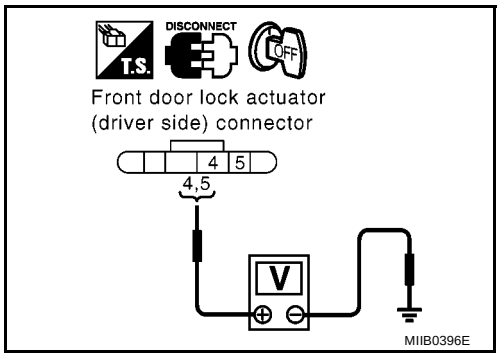
EIS0055C

DRIVER SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect front door lock actuator (driver side) connector.
3. Door lock / unlock switch operate, check voltage between front door lock actuator (driver side) connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D9	5 (BR)	Ground	Unlock	0 → Battery voltage → 0
	4 (L)		Lock	0 → Battery voltage → 0



OK or NG

OK >> Replace front door lock actuator (driver side).
NG >> GO TO 2.

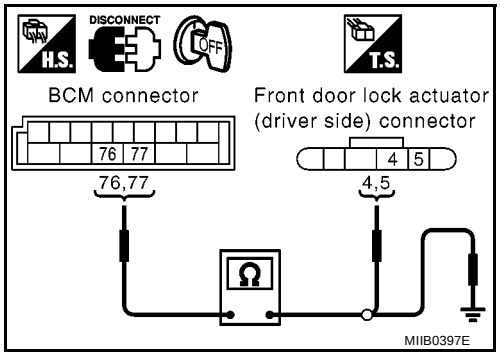
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 76, 77 and front door lock actuator (driver side) connector D9 terminal 4, 5.

76 (BR) – 5 (BR) : Continuity should exist.
77 (L) – 4 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 76, 77 and ground.

76 (BR) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

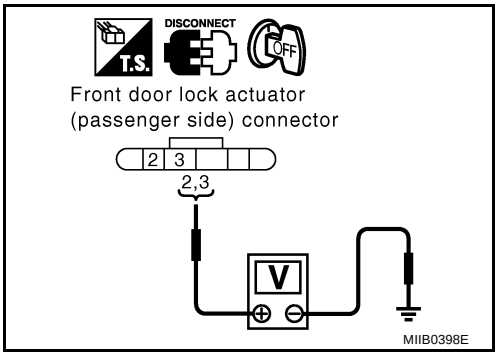
OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

PASSENGER SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect front door lock actuator (passenger side) connector.
3. Door lock / unlock switch operate, check voltage between front door lock actuator (passenger side) connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D38	3 (L)	Ground	Lock	0 → Battery voltage → 0
	2 (L)		Unlock	0 → Battery voltage → 0



OK or NG

OK >> Replace front door lock actuator (passenger side).
NG >> GO TO 2.

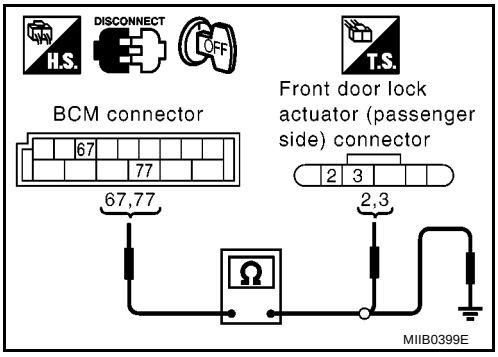
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 67, 77 and front door lock actuator (passenger side) connector D38 terminal 2, 3.

67 (L) – 2 (L) : Continuity should exist.
77 (L) – 3 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 67, 77 and ground.

67 (L) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

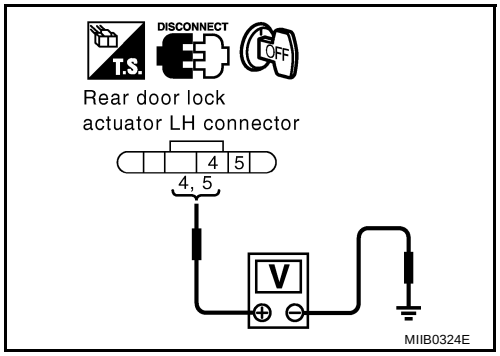
OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

REAR LH SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect rear door lock actuator LH connector.
3. Door lock / unlock switch operate, check voltage between rear door lock actuator LH connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D63	4 (BR)	Ground	Lock	0 → Battery voltage → 0
	5 (Y)		Unlock	0 → Battery voltage → 0



OK or NG

OK >> Replace rear door lock actuator LH.
NG >> GO TO 2.

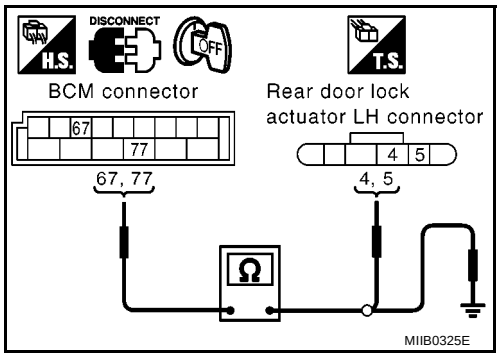
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 67, 77 and rear door lock actuator LH connector D63 terminal 4, 5.

67 (L) – 5 (Y) : Continuity should exist.
77 (L) – 4 (BR) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 67, 77 and ground.

67 (L) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

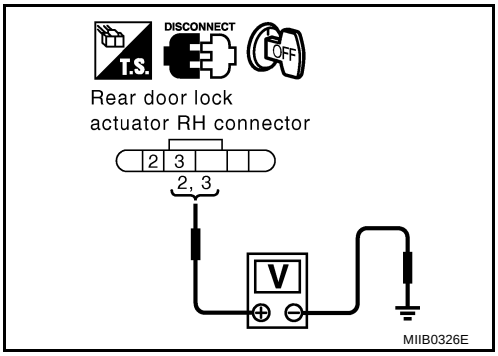
OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

REAR RH SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect rear door lock actuator RH connector.
3. Door lock / unlock switch operate, check voltage between rear door lock actuator RH connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D83	2 (Y)	Ground	Unlock	0 → Battery voltage → 0
	3 (L)		Lock	0 → Battery voltage → 0



OK or NG

OK >> Replace rear door lock actuator RH.
NG >> GO TO 2.

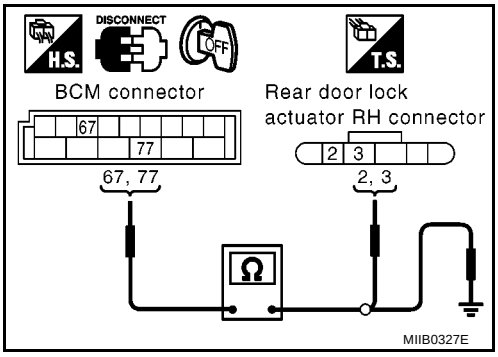
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 67, 77 and rear door lock actuator RH connector D83 terminal 2, 3.

67 (L) – 2 (Y) : Continuity should exist.
77 (L) – 3 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 67, 77 and ground.

67 (L) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

Check Door Switch

EIS0055D

DRIVER SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

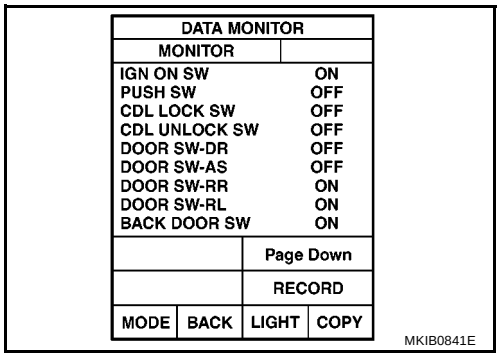
Check door switch “DOOR SW-DR” in “DATA MONITOR” mode with CONSULT- II.

When front door (driver side) is opend:

DOOR SW-DR ⇒ ON

When front door (driver side) is close:

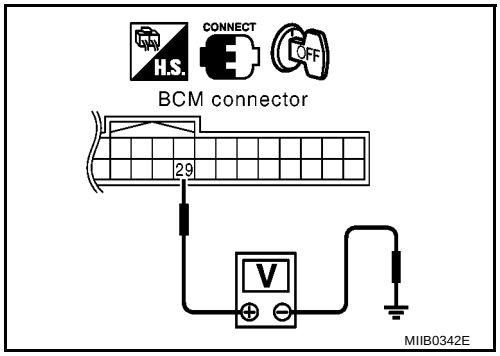
DOOR SW-DR ⇒ OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	29 (L)	Ground	Open	0
			Close	Battery voltage



OK or NG

OK >> Front door switch LH is OK.

NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and front door switch LH connector.
3. Check continuity between BCM connector M48 terminal 29 and front door switch LH connector B22 terminal 1.

   29 (L) – 1 (LG) : Continuity should exist.

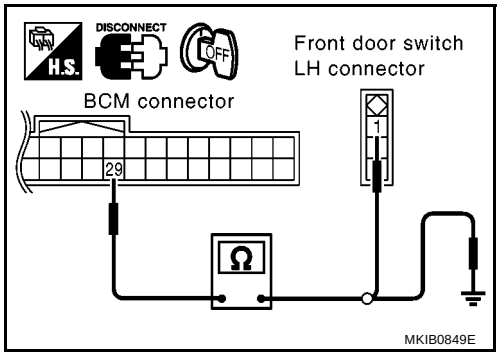
4. Check continuity between BCM connector M48 terminal 29 and ground.

   29 (L) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

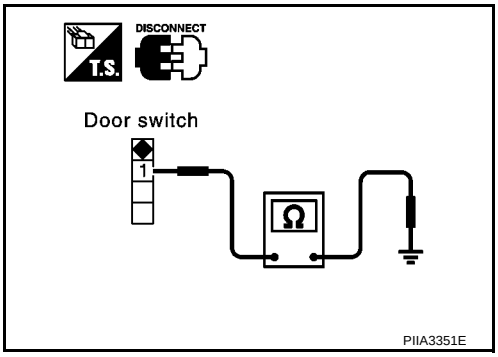
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Body ground part of door switch	Pushed	No
		Released	Yes



OK or NG

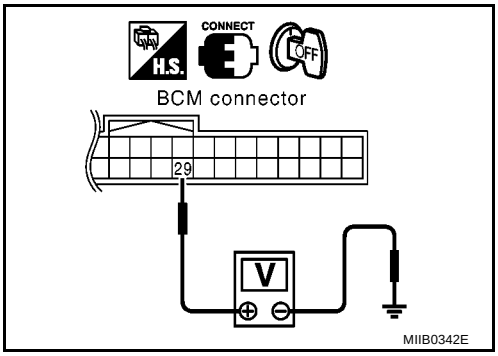
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M48 terminal 29 and ground.

Driver side door is closed.

29 (L) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

PASSENGER SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

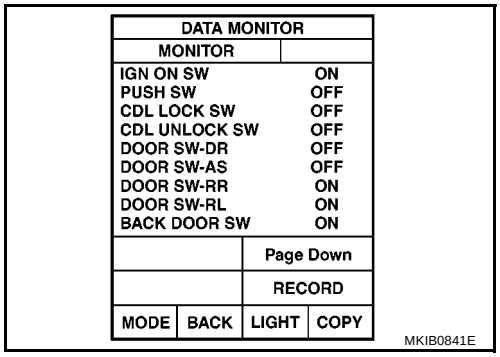
Check door switch “DOOR SW-AS” in “DATA MONITOR” mode with CONSULT- II.

When front door (passenger side) is opend:

DOOR SW-AS ⇒ ON

When front door (passenger side) is close:

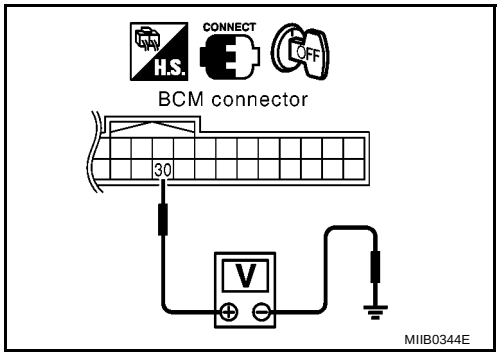
DOOR SW-AS ⇒ OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	30 (LG)	Ground	Open	0
			Close	Battery voltage



OK or NG

OK >> Front door switch RH is OK.

NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and front door switch RH connector.
3. Check continuity between BCM connector M48 terminal 30 and front door switch RH connector B16 terminal 1.

30 (LG) – 1 (L) : Continuity should exist.

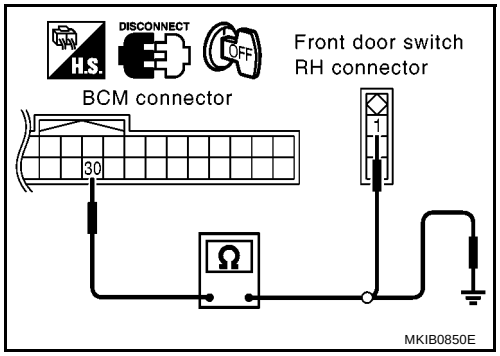
4. Check continuity between BCM connector M48 terminal 30 and ground.

30 (LG) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

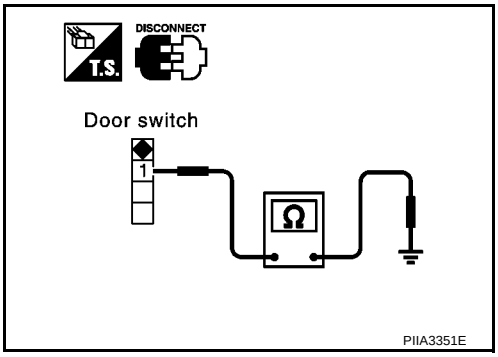
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Ground	Pushed	No
		Released	Yes



OK or NG

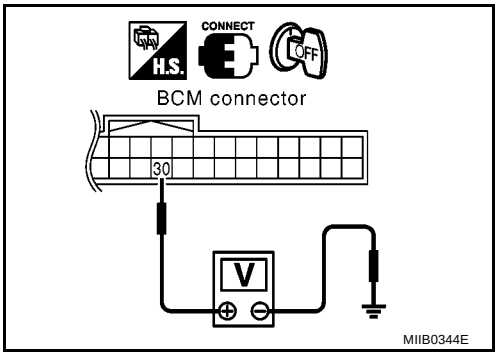
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M48 terminal 30 and ground.

Passenger side door is closed.

30 (LG) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

REAR LH SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

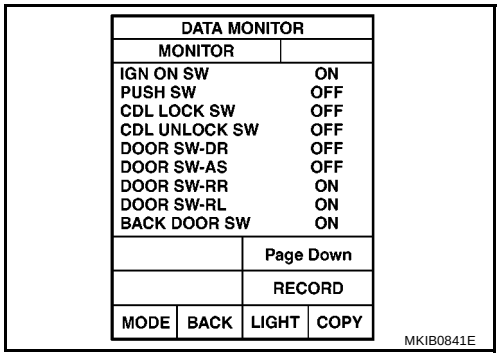
Check door switch “DOOR SW-RL” in “DATA MONITOR” mode with CONSULT- II.

When front door (rear LH side) is opend:

DOOR SW-RL ⇒ ON

When front door (rear LH side) is close:

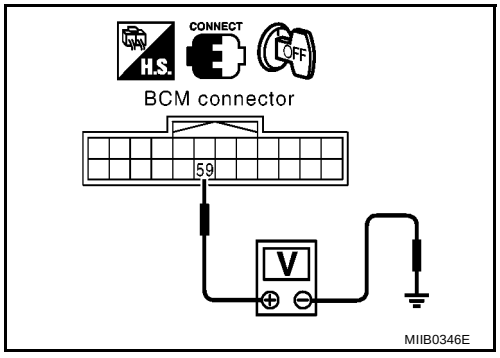
DOOR SW-RL ⇒ OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M49	59 (L)	Ground	Open	0
			Close	Battery voltage



OK or NG

OK >> Rear door switch LH is OK.
NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and rear door switch LH connector.
3. Check continuity between BCM connector M49 terminal 59 and rear door switch LH connector B31 terminal 1.

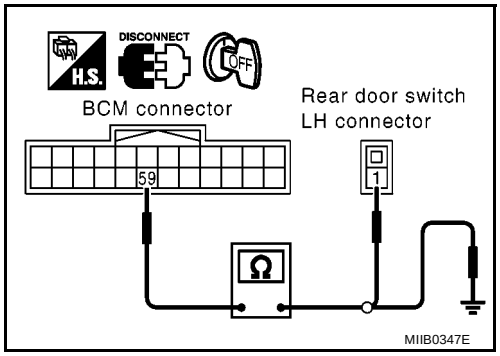
59 (L) – 1 (L) : Continuity should exist.

4. Check continuity between BCM connector M49 terminal 59 and ground.

59 (L) – Ground : Continuity should not exist.

OK or NG

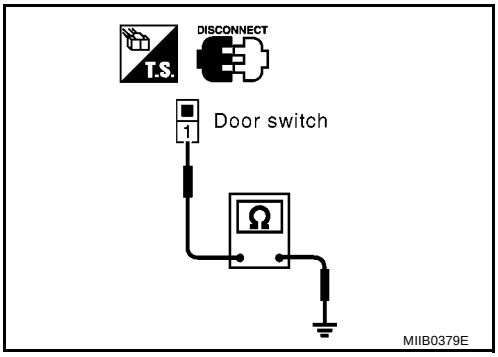
OK >> GO TO 3.
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Ground	Pushed	NO
		Released	YES



OK or NG

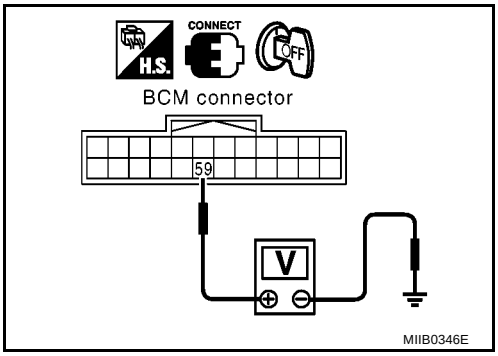
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M49 terminal 59 and ground.

Rear LH door is closed.

59 (L) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

REAR RH SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

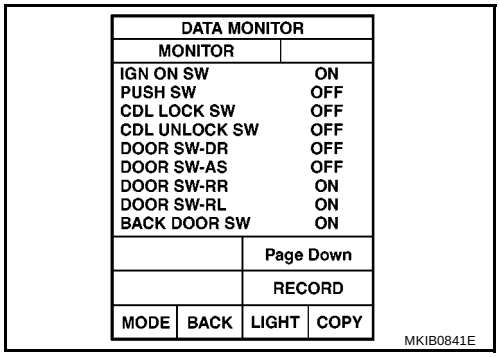
Check door switch “DOOR SW-RR” in “DATA MONITOR” mode with CONSULT- II.

When front door (rear RH side) is opend:

DOOR SW-RR ⇒ ON

When front door (rear RH side) is close:

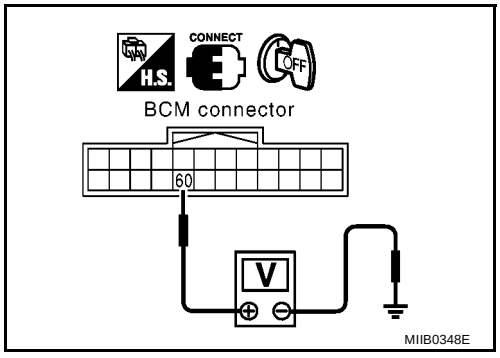
DOOR SW-RR ⇒ OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M49	60 (G)	Ground	Open	0
			Close	Battery voltage



OK or NG

OK >> Rear door switch RH is OK.

NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and rear door switch RH connector.
3. Check continuity between BCM connector M49 terminal 60 and rear door switch RH connector B30 terminal 1.

60 (G) – 1 (G) : Continuity should exist.

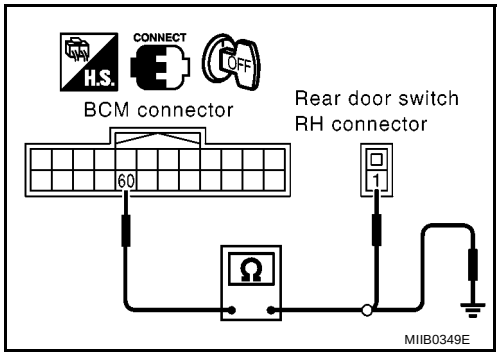
4. Check continuity between BCM connector M49 terminal 60 and ground.

60 (G) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

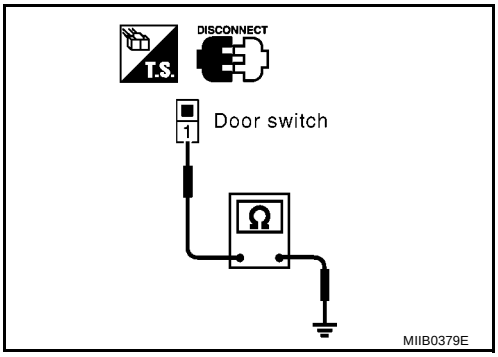
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Ground	Pushed	NO
		Released	YES



OK or NG

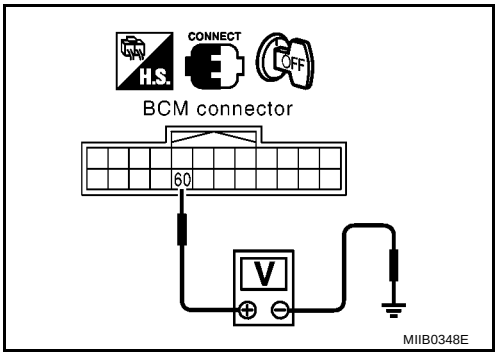
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M49 terminal 60 and ground.

Rear RH door is closed.

60 (G) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

Check External Back Door Release Switch

EIS0055E

1. CHECK EXTERNAL BACK DOOR RELEASE SWITCH INPUT SIGNAL

With CONSULT- II

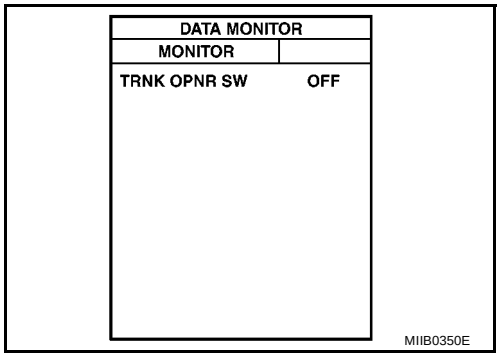
Check external back door release switch “TRNK OPNR SW” in “DATA MONITOR” mode with CONSULT- II.

External back door release switch is pushed

TRNK OPNR SW : ON

External back door release switch is released

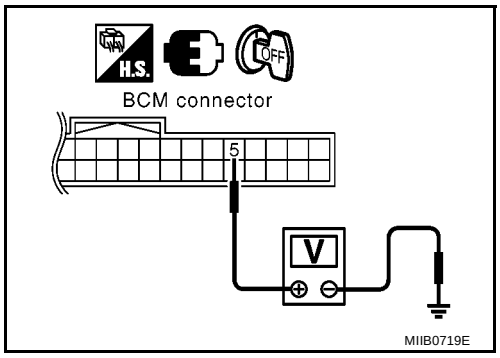
TRNK OPNR SW : OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	5 (Y)	Ground	Pushed	0
			Released	5



OK or NG

OK >> External back door release switch is OK.

NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and external back door release switch connector.
3. Check continuity between BCM connector M48 terminal 5 and external back door release switch connector B52 terminal.

   5 (Y) – 1 (Y) : Continuity should exist.

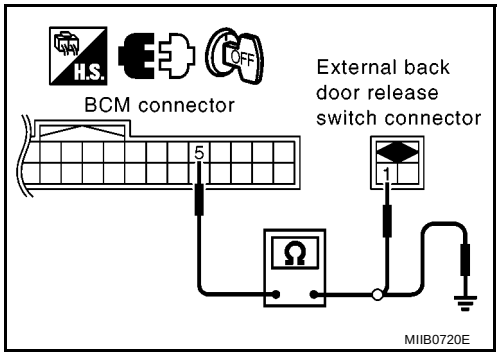
4. Check continuity between BCM connector M48 terminal 5 and ground.

   5 (Y) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



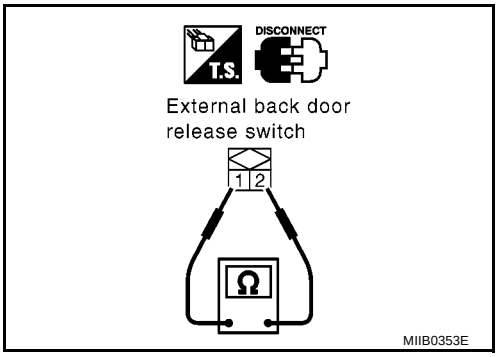
3. CHECK EXTERNAL BACK DOOR RELEASE SWITCH

Check continuity between external back door release switch terminal 1 and 2.

Terminals		Condition	Continuity
1	2	Pushed	Yes
		Released	No

OK or NG

OK >> GO TO 4.
NG >> Replace external back door release switch.



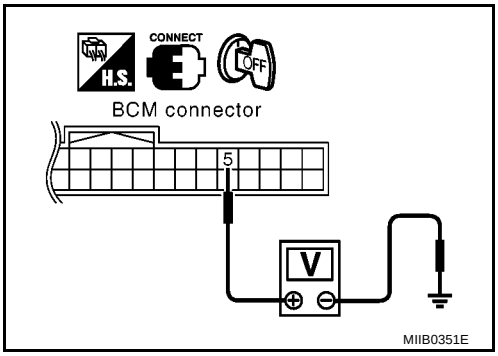
4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M48 terminal 5 and ground.

5 (Y) – Ground : Approx. 5V

OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Replace BCM.



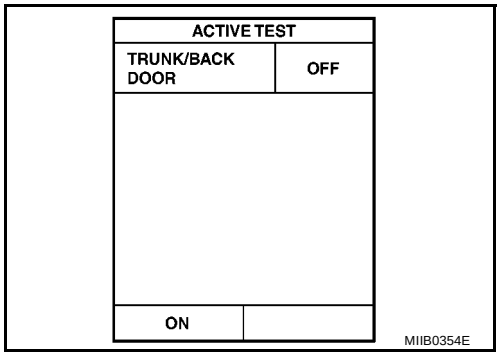
Check Back Door Release Actuator

EIS0055F

1. CHECK BCM OUTPUT SIGNAL

Check back door release output signal
Perform (“TRUNK/BACK DOOR”) in “ACTIVE TEST” mode with CONSULT-II.

When “ACTIVE TEST” is executed, does the back door open?



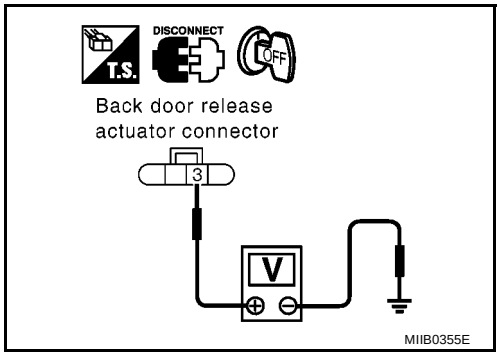
OK or NG

OK >> Back door release output is OK.
NG >> GO TO 2.

2. CHECK BACK DOOR RELEASE ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect back door release actuator connector.
3. External back door release switch operate, check voltage between back door release actuator connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
B55	3 (OR)	Ground	Pushed	0 → Battery voltage → 0



OK or NG

OK >> GO TO 4.
NG >> GO TO 3.

3. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 68 and back door release actuator connector B55 terminal 3.

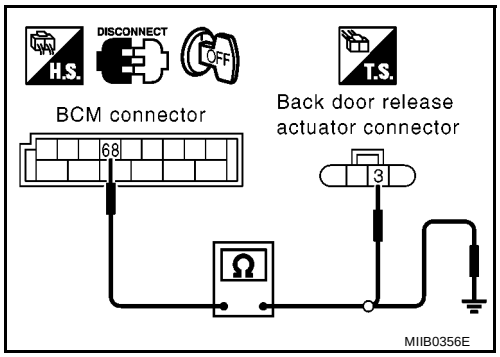
68 (OR) – 3 (OR) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 68 and ground.

68 (OR) – Ground : Continuity should not exist.

OK or NG

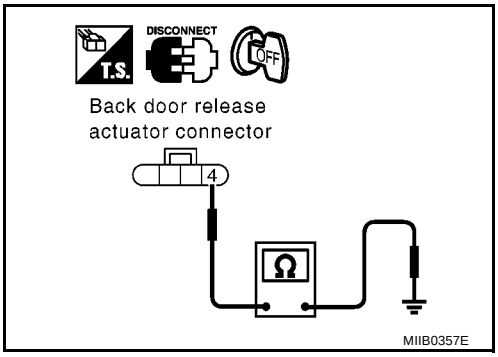
OK >> Replace BCM.
NG >> Repair or replace harness.



4. CHECK GROUND CIRCUIT

Check continuity between back door release actuator connector B55 terminal 4 and ground.

4 (B) – Ground : Continuity should exist.



OK or NG

OK >> Replace back door release actuator.
NG >> Repair or replace harness.

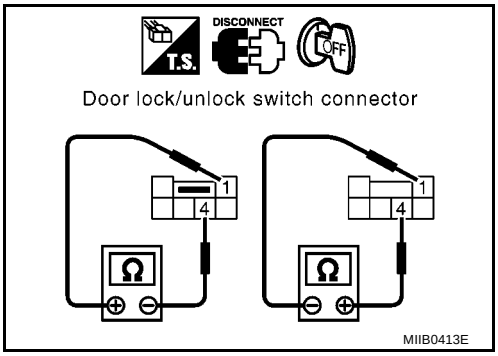
Check Door Lock/Unlock Switch Indicator

EIS00566

1. CHECK DOOR LOCK/UNLOCK SWITCH INDICATOR

Check continuity between door lock/unlock switch indicator harness connector terminal 1 and 4.

Terminals		Continuity
(+)	(-)	
1	4	Yes
4	1	No



OK or NG

OK >> Check harness for open or short between BCM and door lock/unlock switch.
NG >> replace door lock/unlock switch.

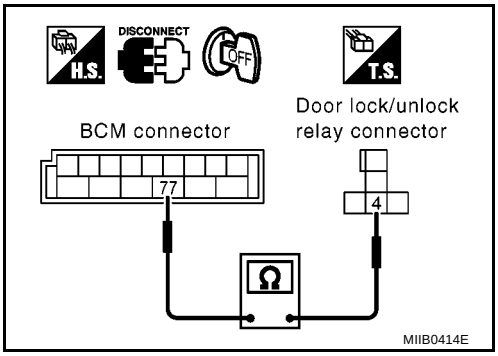
Check Door Lock/Unlock Relay Circuit

EIS00567

1. CHECK HARNESS CONTINUITY

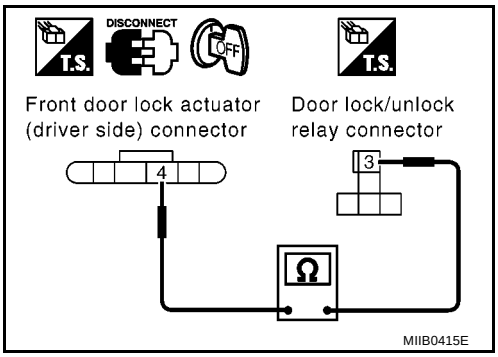
1. Disconnect BCM and door lock/unlock relay and front door lock actuator (driver side).
2. Check continuity between BCM connector M50 terminal 77 and door lock/unlock relay connector M52 terminal 4.

77 (L) – 4 (L) : Continuity should exist.



3. Check continuity between door lock/unlock relay connector M52 terminal 3 and front door lock actuator (driver side) connector D9 terminal 4.

3 (L) – 4 (L) : Continuity should not exist.



OK or NG

OK >> Check door lock/unlock relay.
NG >> Repair or replace harness.

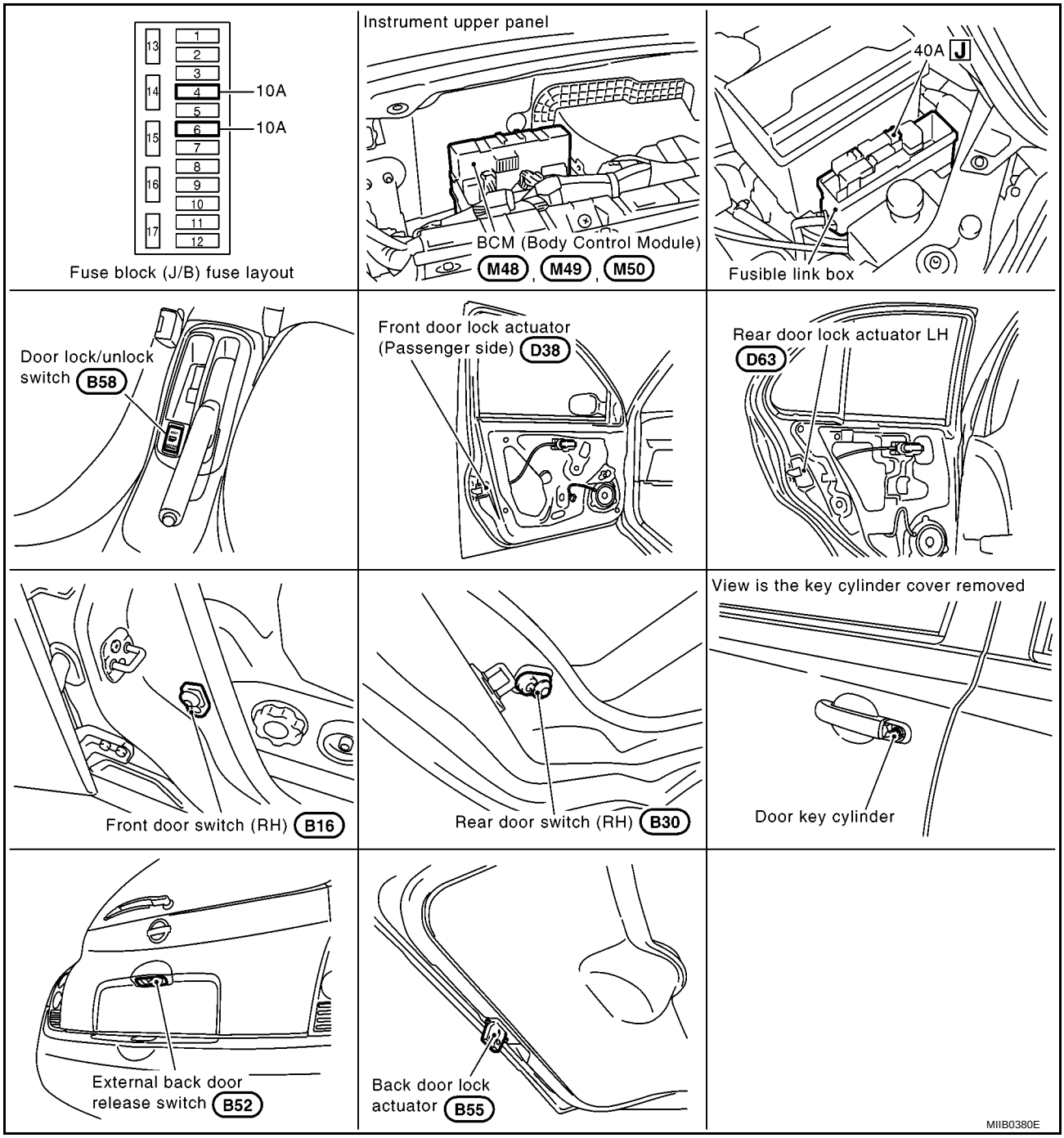
POWER DOOR LOCK — SUPER LOCK —

PFP:24814

Component Parts and Harness Connector Location

SMA for VIN >SJN**AK12U1309269

EIS0054P



System Description

EIS004XP

OUTLINE

Power door lock system with super lock and key reminder is controlled by BCM (Body Control Module). Super lock has a higher anti-theft performance than conventional power door lock systems.
When super lock is in released condition, lock knob operation locks or unlocks door.
When super lock is in set condition, lock knob operation cannot lock nor unlock door.

OPERATION

Power door lock / unlock and super lock set / release operation by remote controller

- Pressing remote controller LOCK button will lock all doors and set super lock. (Super lock will not be set while key is inserted in the ignition key cylinder.)
- Pressing remote controller UNLOCK button once will unlock driver door and release super lock. Then, if an unlock signal is sent from the remote controller again within 5 seconds, all other doors will be unlocked.

Power door lock / unlock and super lock release operation by door key cylinder

With the key inserted into driver door key cylinder, turning it to UNLOCK will unlock passenger door and release super lock.

Power door lock and super lock release operation

When the super lock is set, turning the ignition key switch to ON will release the super lock. All doors will unlock once, but then immediately lock again.

Power door lock / unlock operation by lock / unlock switch

- With door lock / unlock switch on center console setting to LOCK will lock all doors.
- With door lock / unlock switch on center console setting to UNLOCK will unlock all doors.

Door lock / unlock switch operation cannot control super lock

Key reminder system

If the ignition key is in the ignition key cylinder and driver door is open, setting door lock / unlock switch, lock knob, key or remote controller to “LOCK” locks the door once but then immediately unlocks all doors.
(signal from door unlock sensor driver side)

System initialization

- System initialization is required when battery cables are reconnected. Conduct the following to release super lock once;

– insert the key into the ignition key cylinder and turn it to ON.
– LOCK / UNLOCK operation using remote controller.

Back door open operation

Back door open operates when all doors door lock and super lock are unlocked.

CAN Communication

EIS008C1

SYSTEM DESCRIPTION

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Unit

EIS00AOR

Go to CAN system, when selecting your car model from the following table.

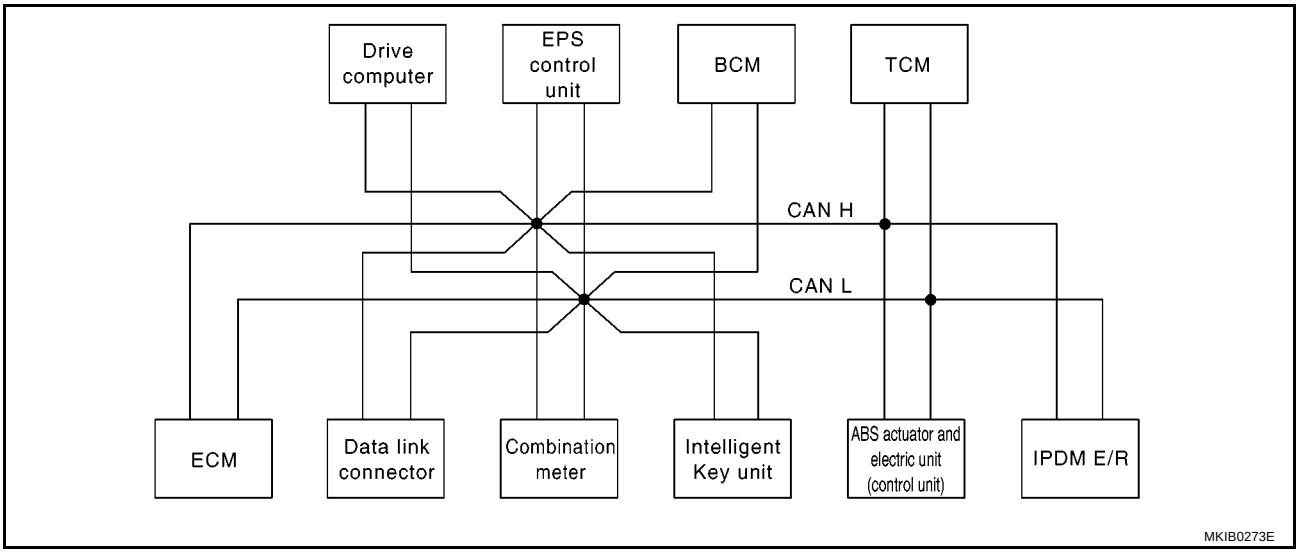
Body type	3door/5door																			
Axle	2WD																			
Engine	CR10DE/CR12DE/CR14DE								CR12DE/CR14DE								K9K			
Handle	LHD/RHD																			
Brake control	ABS system								ESP system								ABS			
Transmission	A/T				M/T				A/T				M/T				M/T			
Intelligent Key system	Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable		Applicable		Not applicable	
CAN communication unit																				
ECM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Intelligent Key unit	×	×			×	×			×	×			×	×			×	×		
Drive computer	×		×		×		×		×		×		×		×		×		×	
EPS control unit	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×					×	×	×	×								
IPDM E/R	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
CAN communication type	BL-73, "TYPE 1/ TYPE 2"				BL-76, "TYPE 3/ TYPE 4"				BL-78, "TYPE 5/ TYPE 6"				BL-81, "TYPE 7/ TYPE 8"				BL-83, "TYPE 9/ TYPE 10"			

×: Applicable

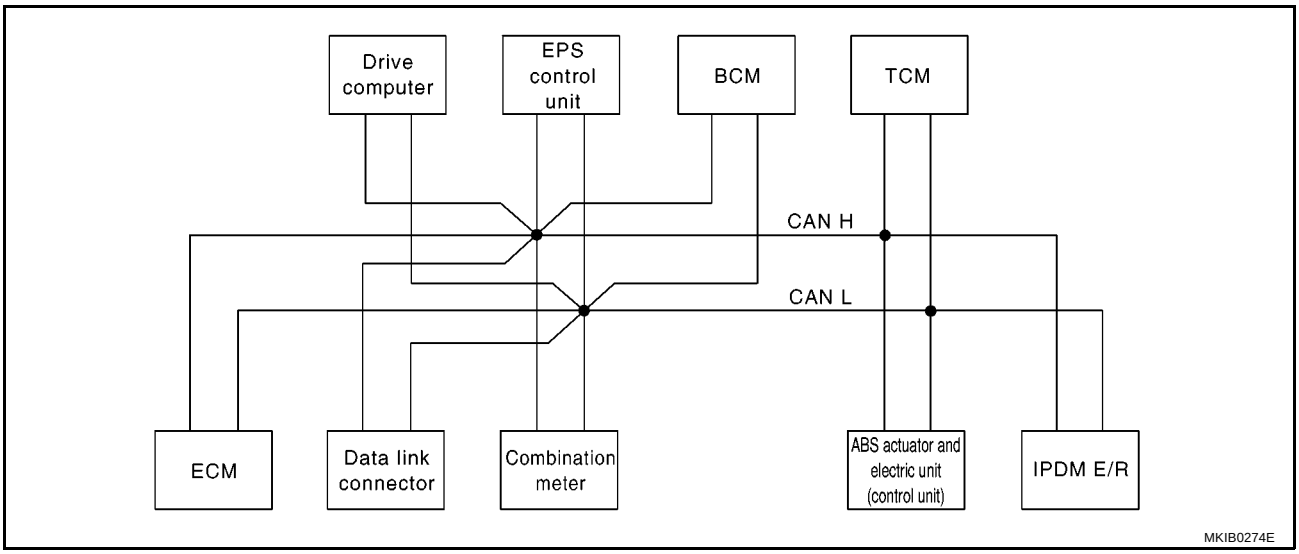
TYPE 1/TYPE 2

System diagram

- Type 1



- Type 2



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R				
Engine coolant temperature signal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T							R	
Closed throttle position signal	T							R	
Wide open throttle position signal	T							R	

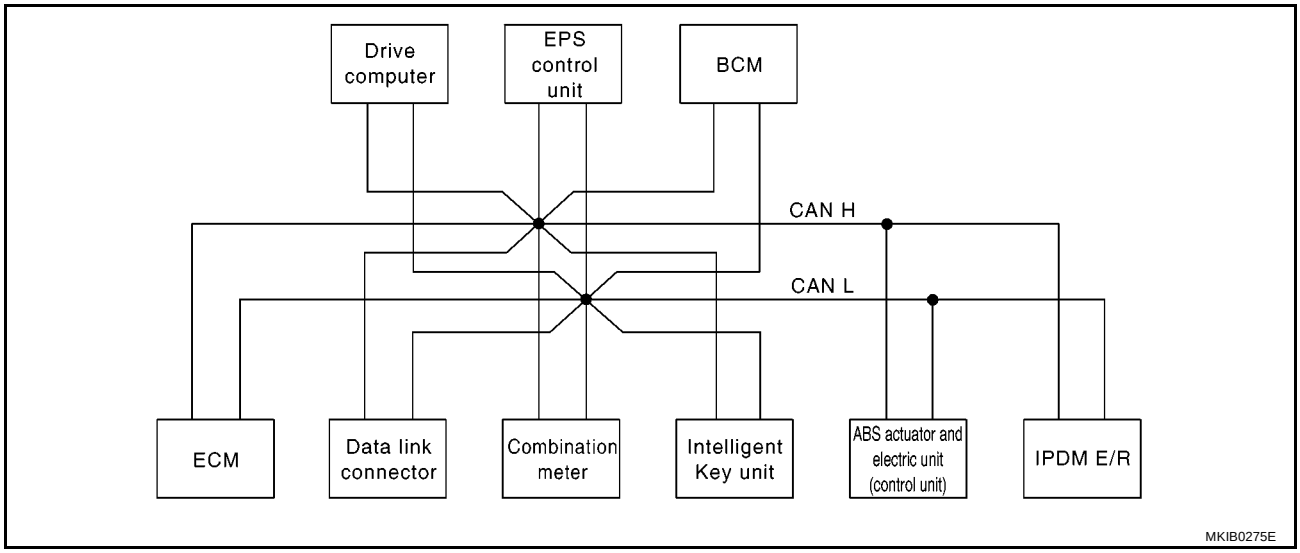
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
A/T shift position signal		R						T	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ABS operation signal	R						T		
Brake warning lamp signal		R		R			T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

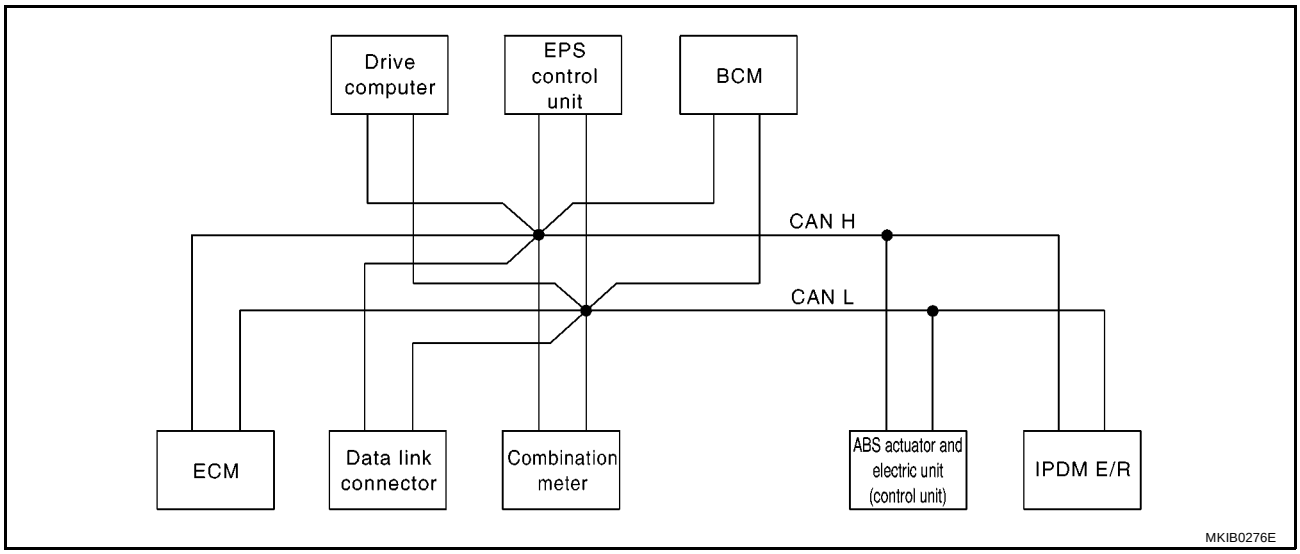
TYPE 3/TYPE 4

System diagram

- Type 3



- Type 4



Input/output signal chart

T: Transmit R: Receive

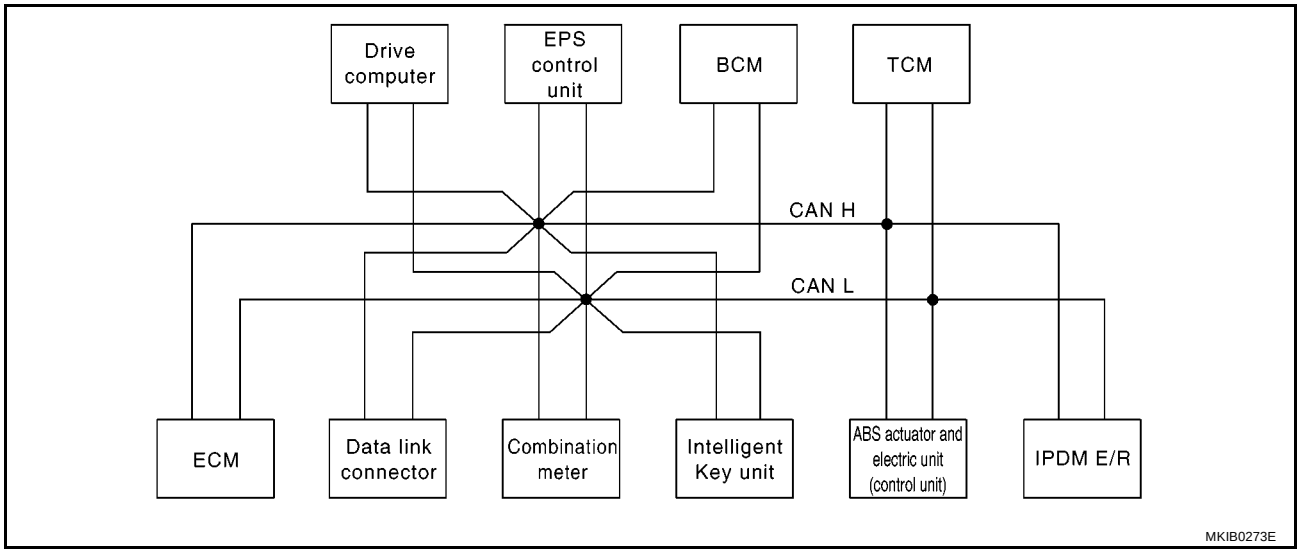
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ABS operation signal	R			R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

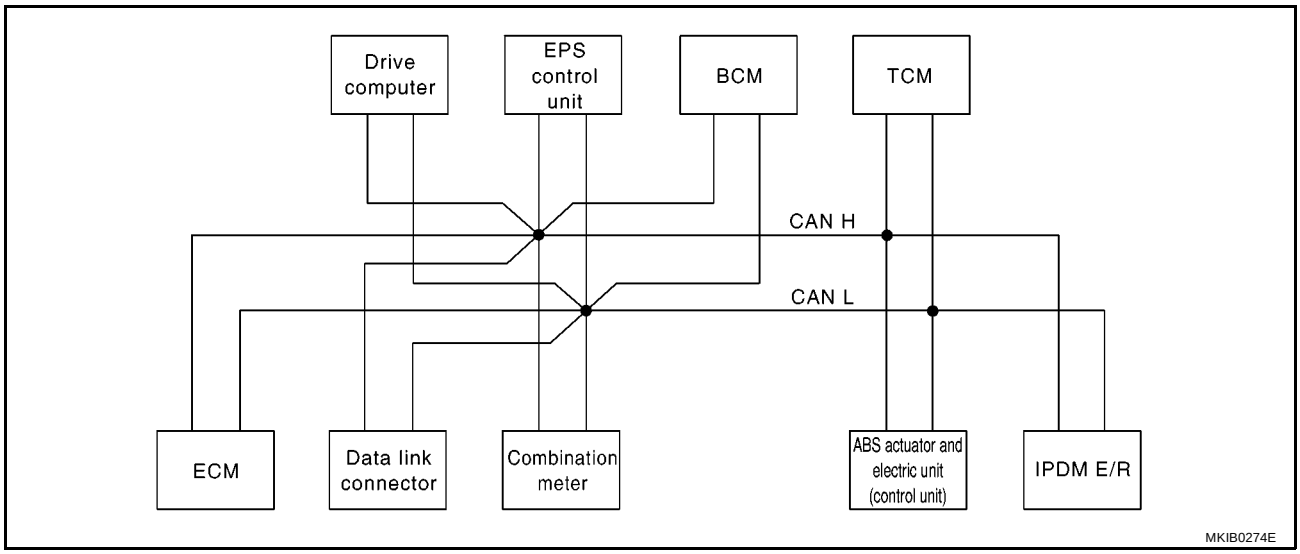
TYPE 5/TYPE 6

System diagram

- Type 5



- Type 6



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R		R		
Engine coolant temperature signal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T						R	R	
Closed throttle position signal	T							R	
Wide open throttle position signal	T						R	R	

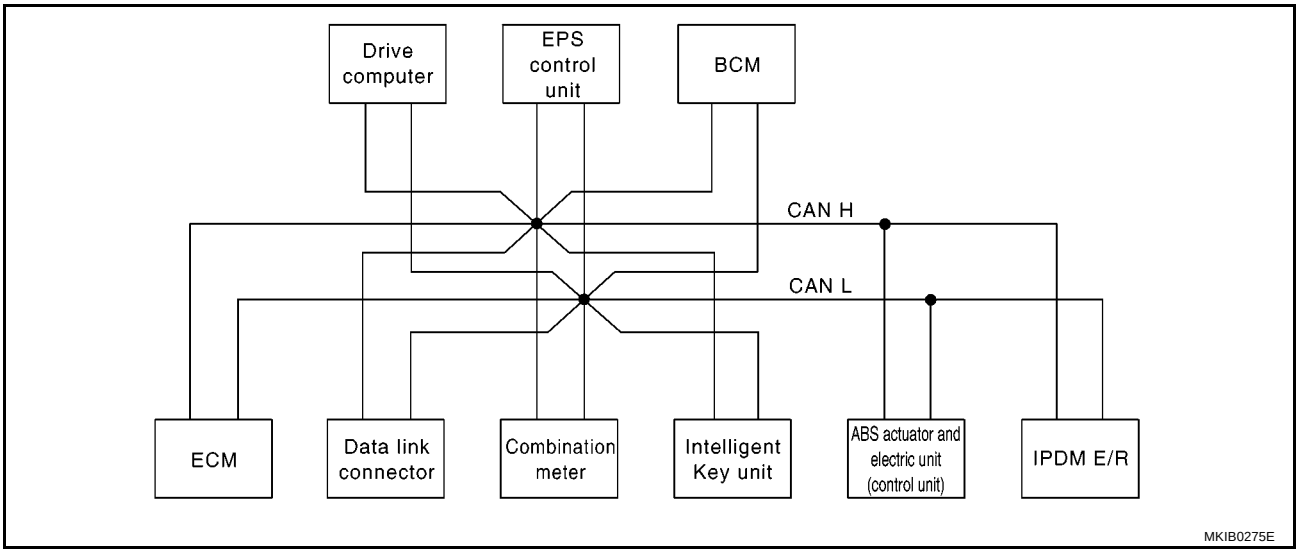
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
A/T shift position signal		R						T	
A/T shift schedule change demand signal							T	R	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
A/C switch signal	R								T
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ESP warning lamp signal		R		R			T		
ESP OFF indicator signal		R					T		
SLIP indicator lamp signal		R					T		

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
ESP operation signal	R						T		
TCS operation signal	R						T		
ABS operation signal	R						T		
Steering angle signal					T		R		
Brake warning lamp signal		R					T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

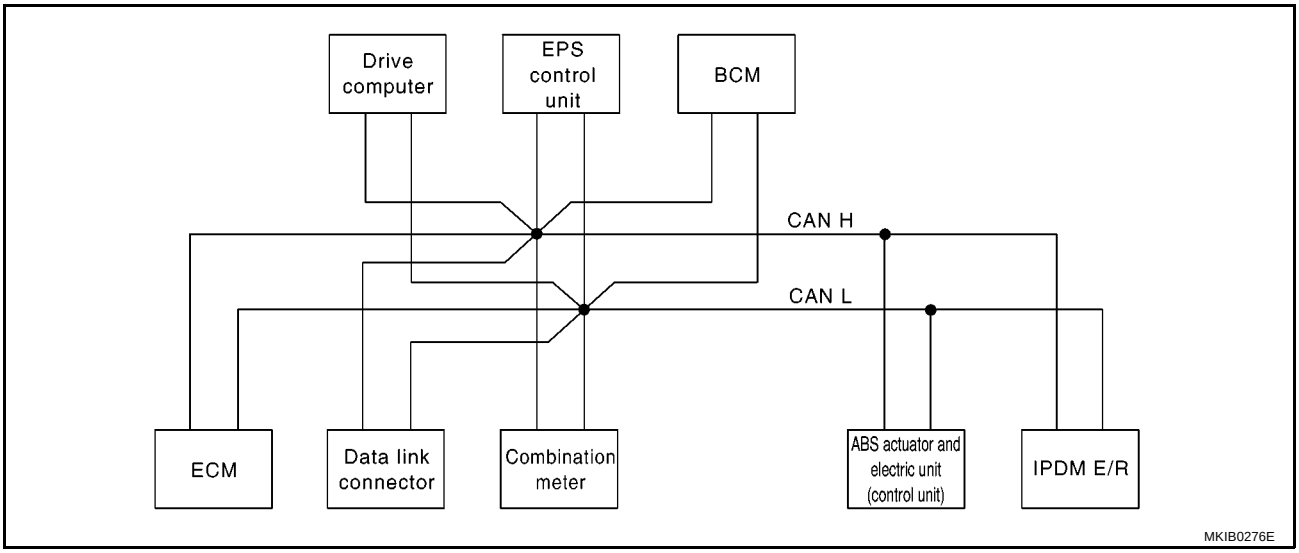
TYPE 7/TYPE 8

System diagram

- Type 7



- Type 8



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R		R	
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Accelerator pedal position signal	T						R	
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
A/C switch signal	R							T
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R

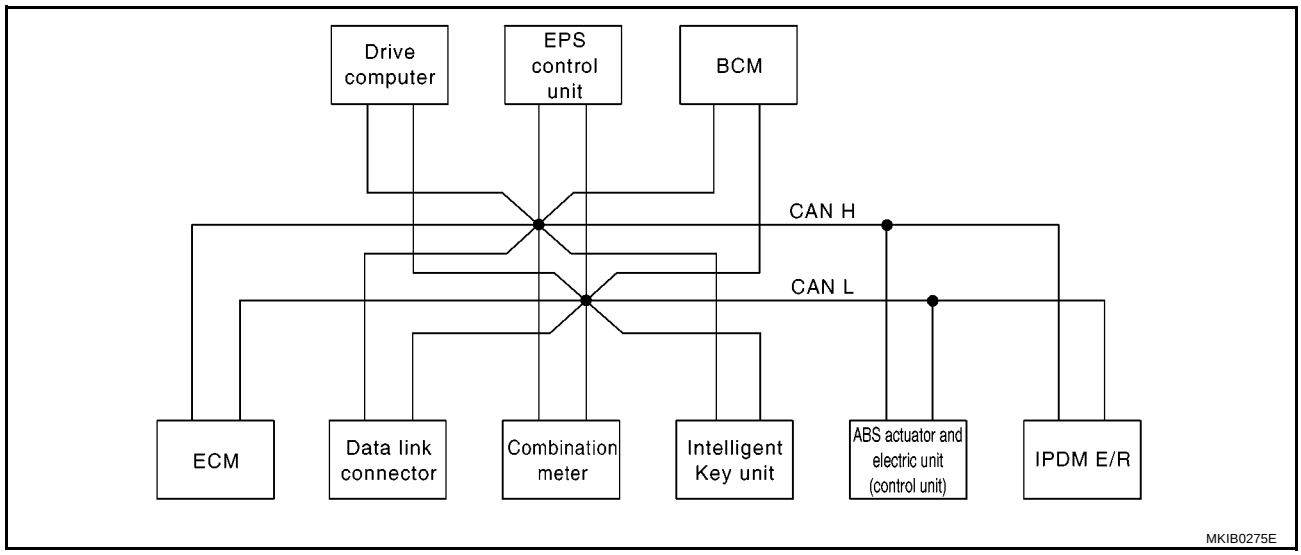
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ESP warning lamp signal		R		R			T	
ESP OFF indicator signal		R					T	
SLIP indicator lamp signal		R					T	
ESP operation signal	R						T	
TCS operation signal	R						T	
ABS operation signal	R						T	
Steering angle signal					T		R	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

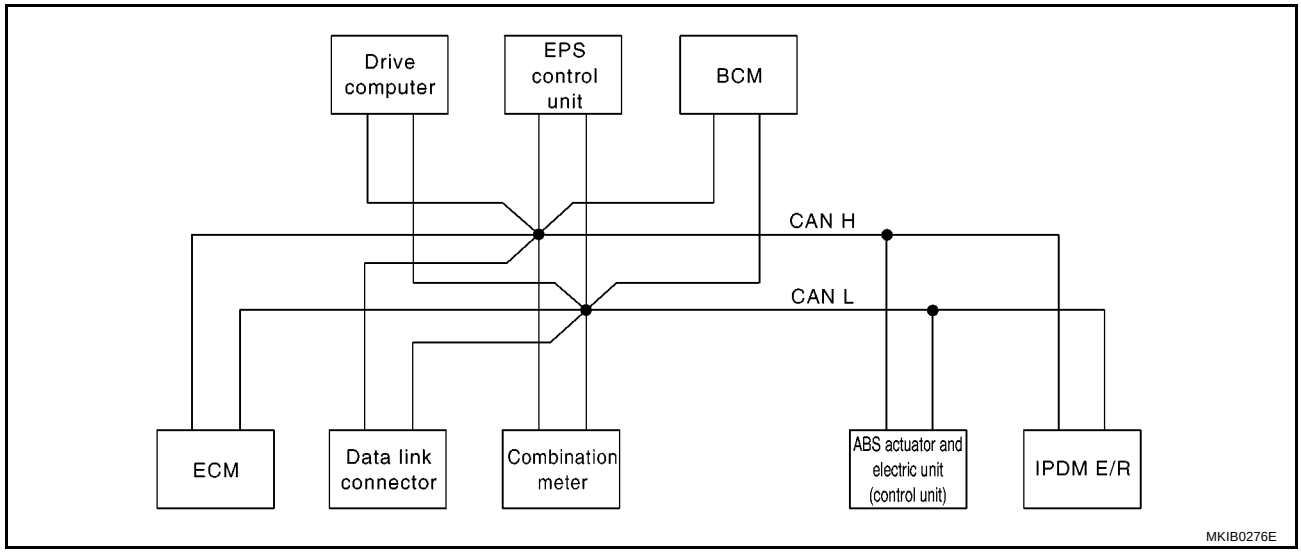
TYPE 9/TYPE 10

System diagram

- Type 9



- Type 10



Input/output signal chart

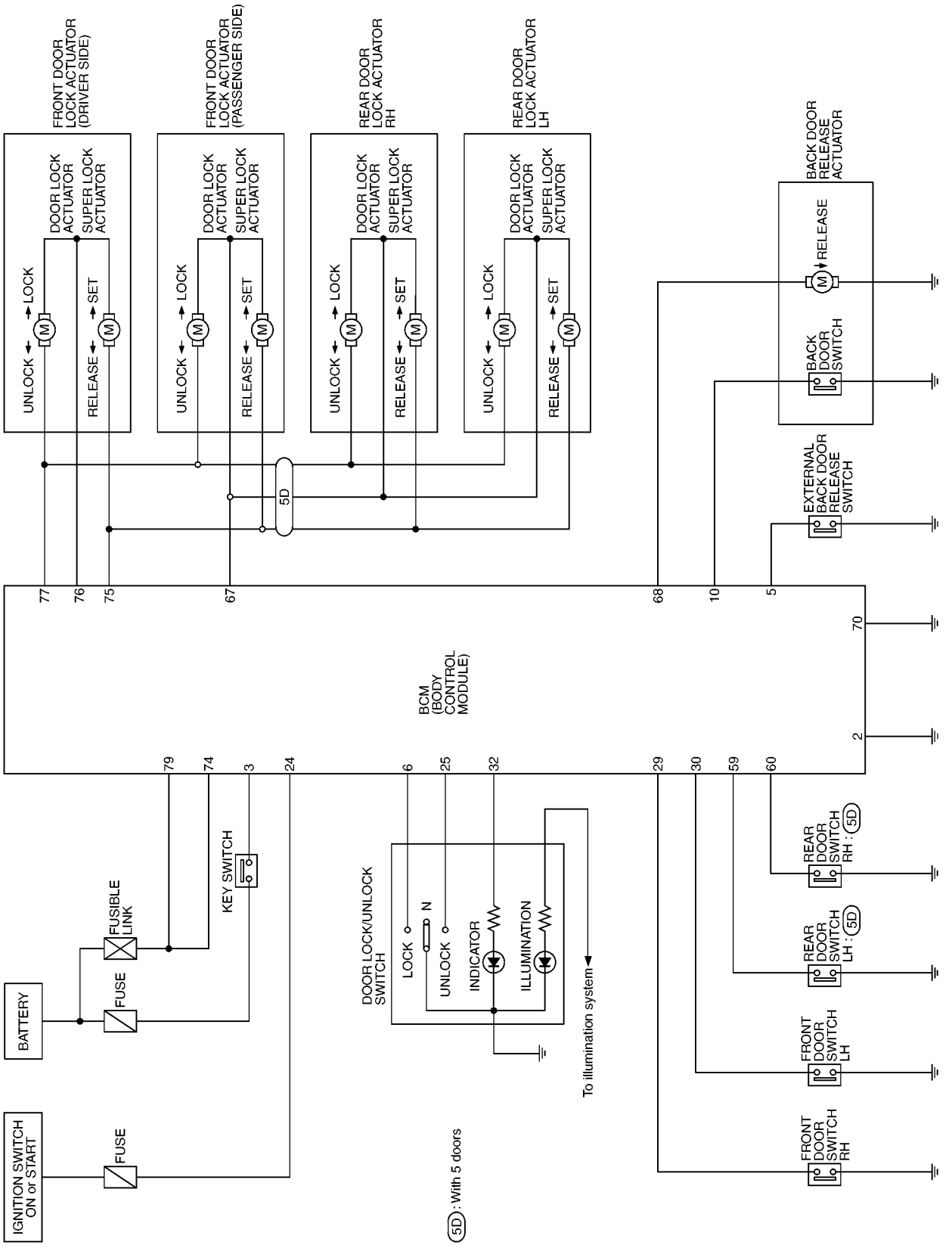
T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R				R		
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Position lights request signal		R		R		T		R
Low beam request signal						T		R
High beam request signal		R				T		R
Day time light request signal						T		R
Vehicle speed signal	R	R			R	R	T	
	R	T	R	R	R			
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ABS operation signal				R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			T			R		
Door lock/unlock status signal			R			T		

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

Schematic – S/LOCK – (Without Intelligent Key System)

EIS004XQ



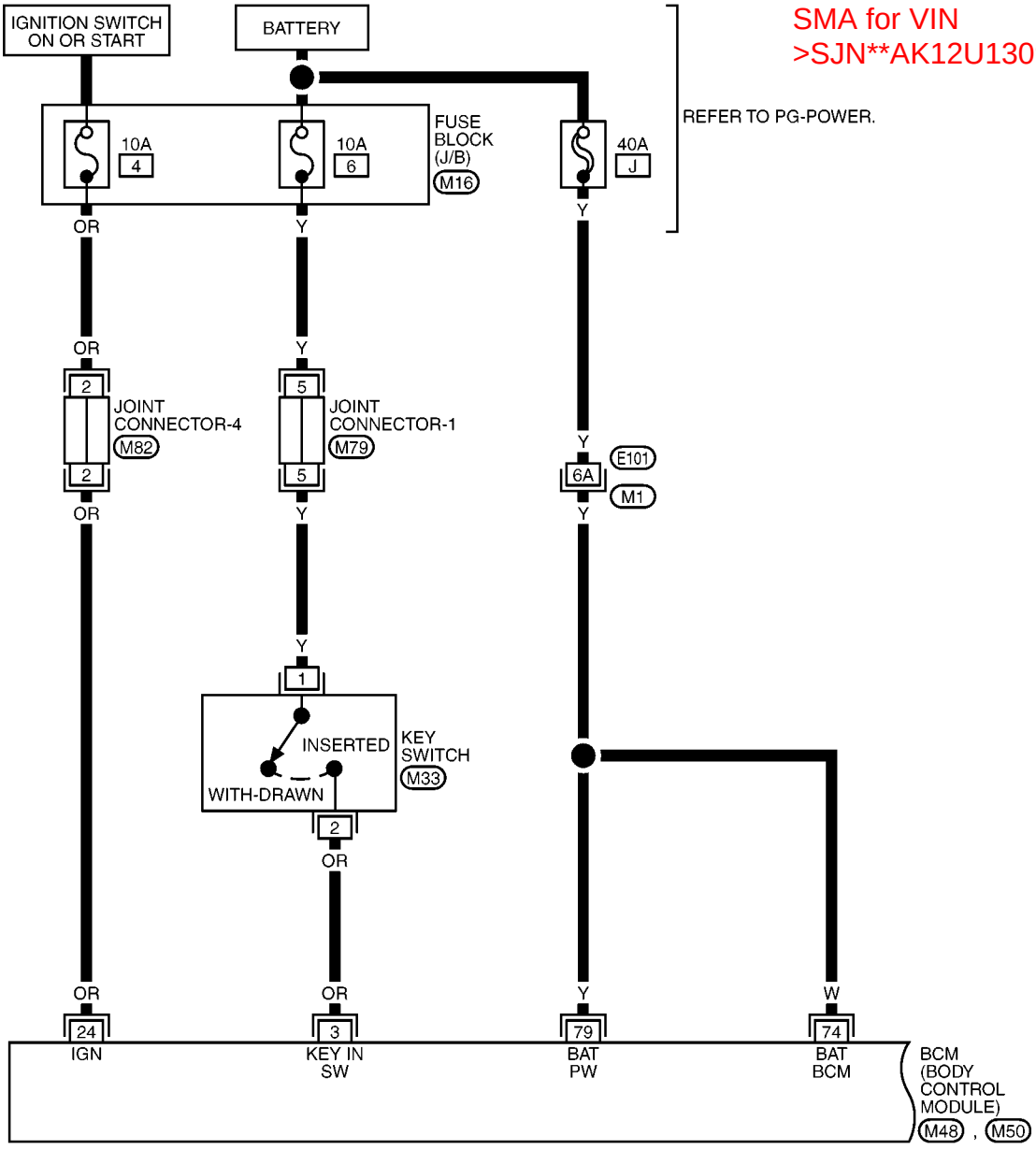
MKWA1781E

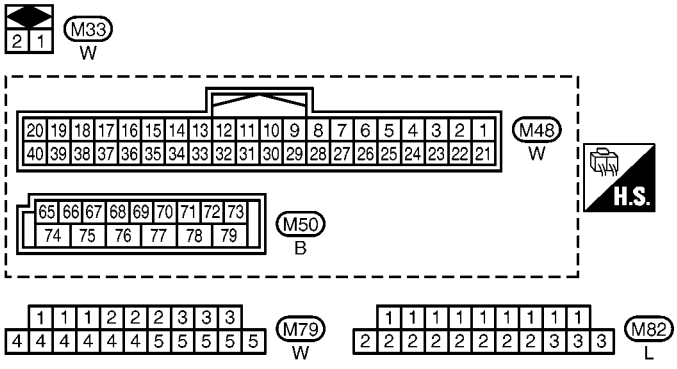
Wiring Diagram — S/LOCK — (Without Intelligent Key System)

EIS004XR

BL-S/LOCK-01

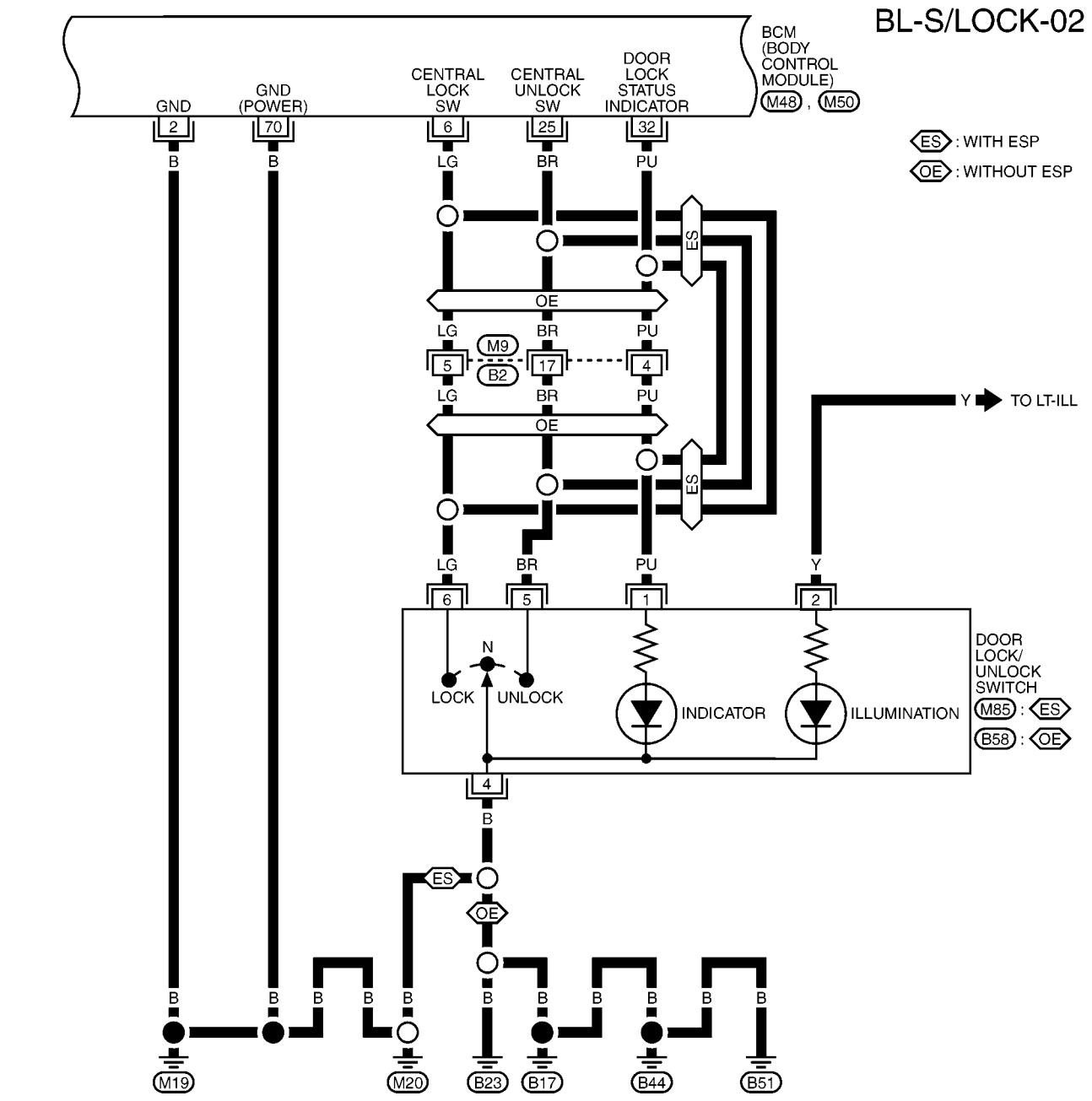
SMA for VIN
>SJN**AK12U1309269

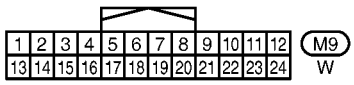


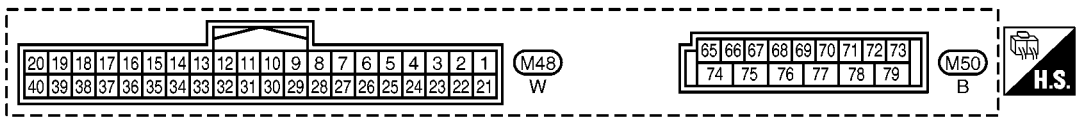


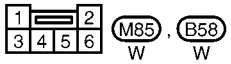
REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)

MKWA1782E


BL-S/LOCK-02
BCM (BODY CONTROL MODULE)
M48 , M50
GND
GND (POWER)
CENTRAL LOCK SW
CENTRAL UNLOCK SW
DOOR LOCK STATUS INDICATOR
2
70
6
25
32
B
B
LG
BR
PU
ES : WITH ESP
OE : WITHOUT ESP
ES
OE
M9
B2
5
17
4
Y
TO LT-ILL
6
5
1
2
N
LOCK
UNLOCK
INDICATOR
ILLUMINATION
DOOR LOCK/ UNLOCK SWITCH
M85 : ES
B58 : OE
M19
M20
B23
B17
B44
B51


1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
M9
W

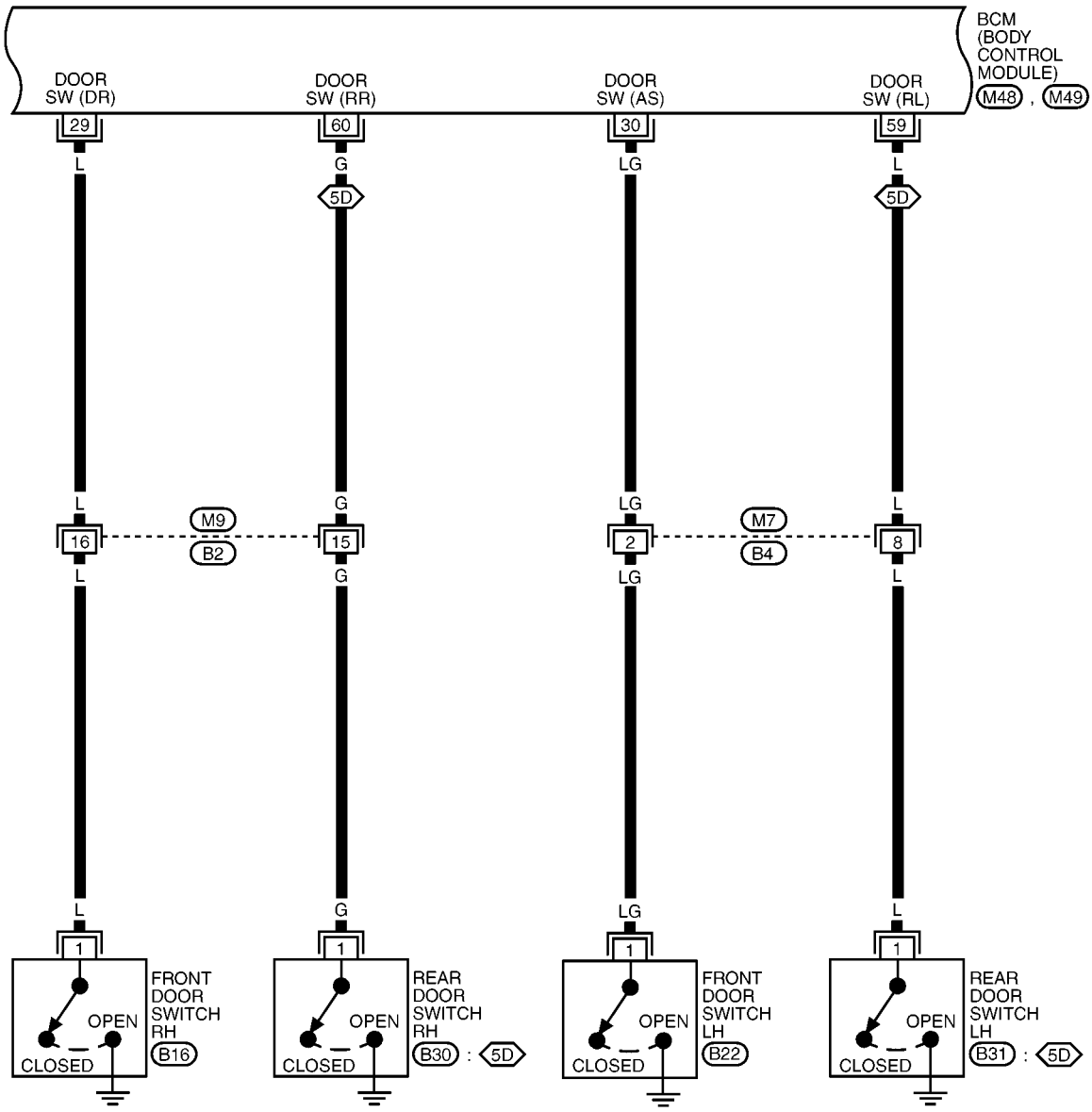

20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21
M48
W
65 66 67 68 69 70 71 72 73
74 75 76 77 78 79
M50
B
H.S.

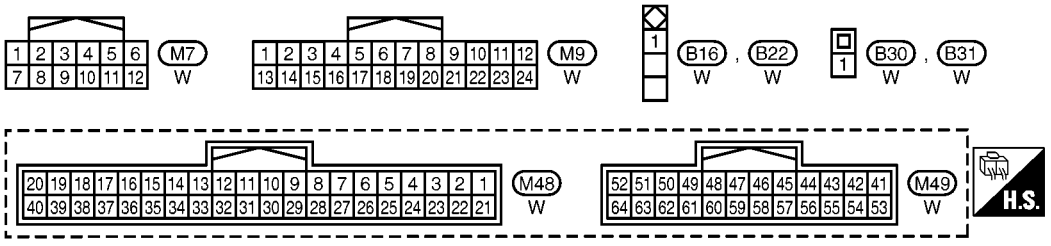

1 2
3 4 5 6
M85 , B58
W W

MKWA1783E

BL-S/LOCK-03

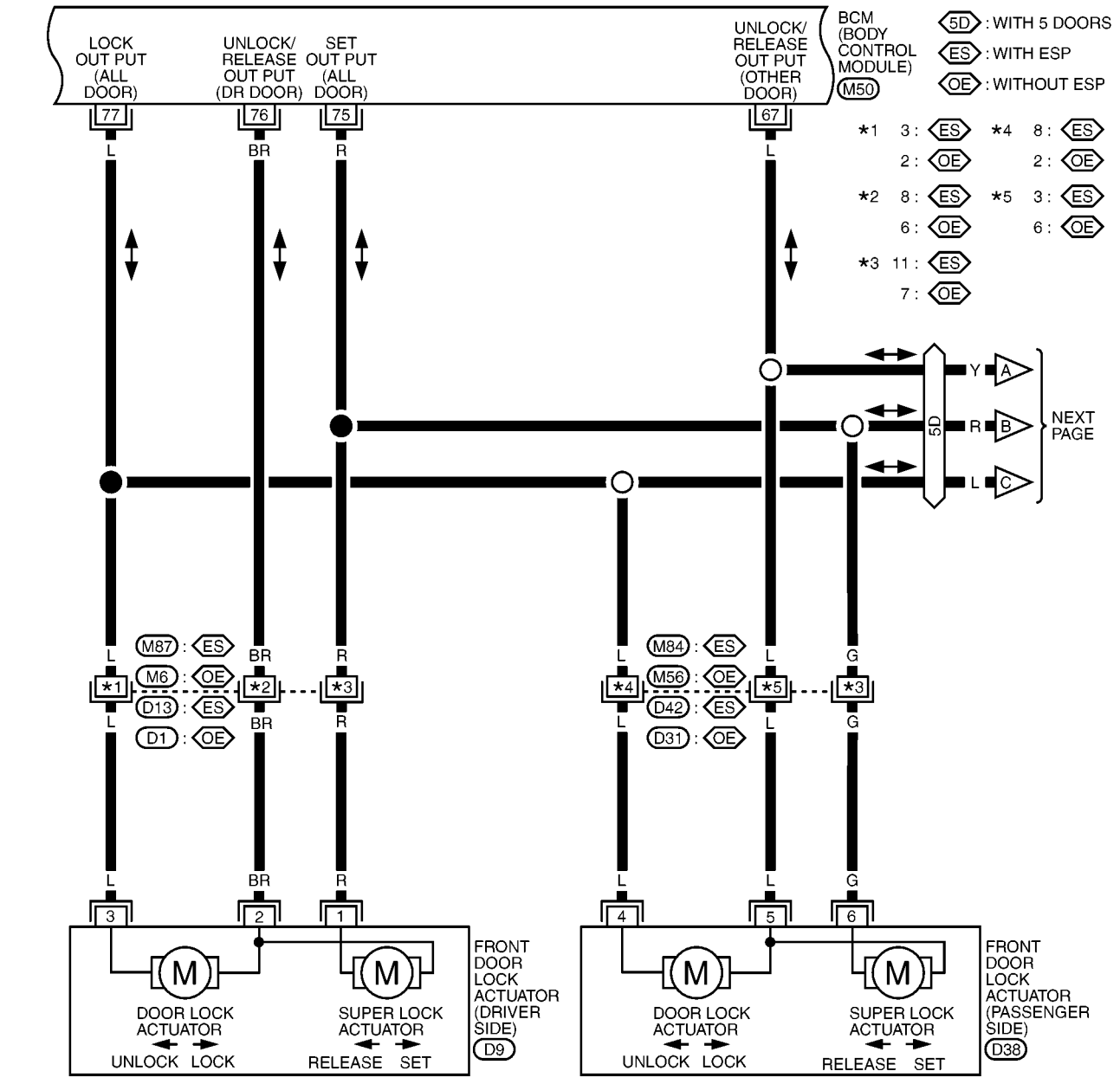
5D : WITH 5 DOORS

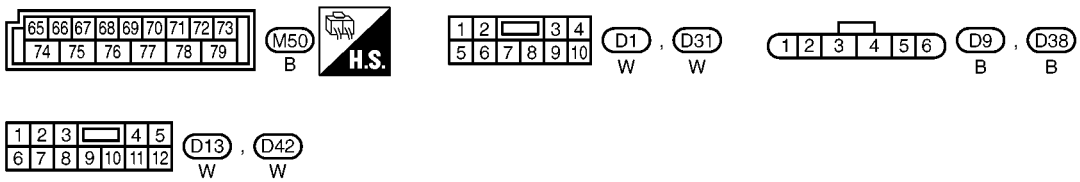




MKWA0877E

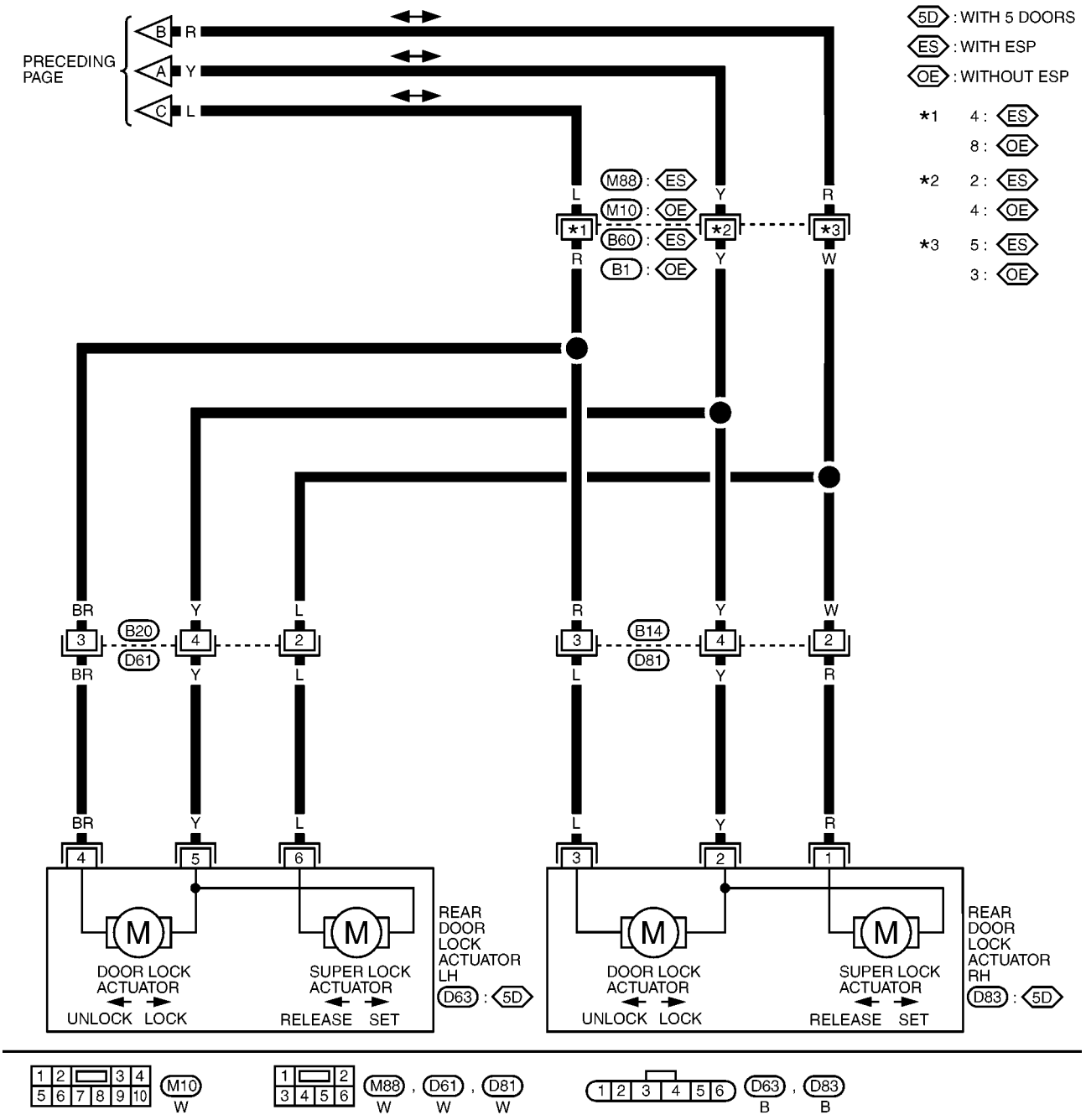
BL-S/LOCK-04





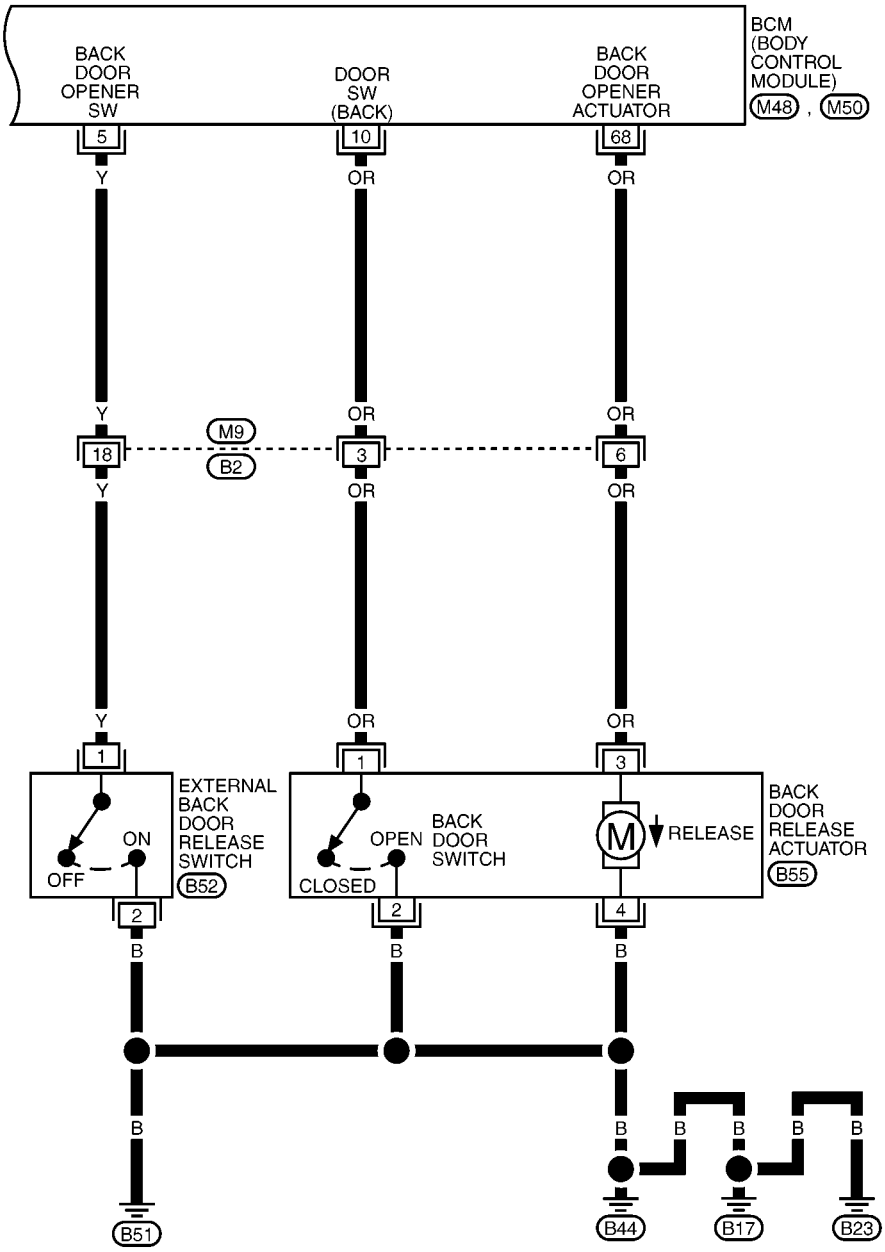
MKWA1784E

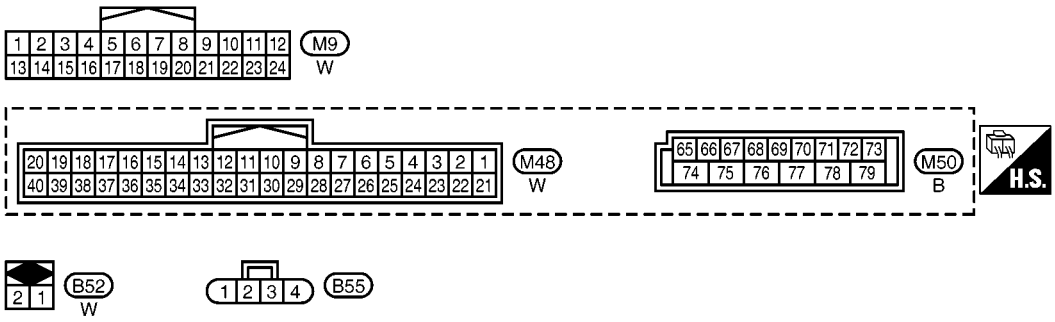
BL-S/LOCK-05



MKWA1785E

BL-S/LOCK-06

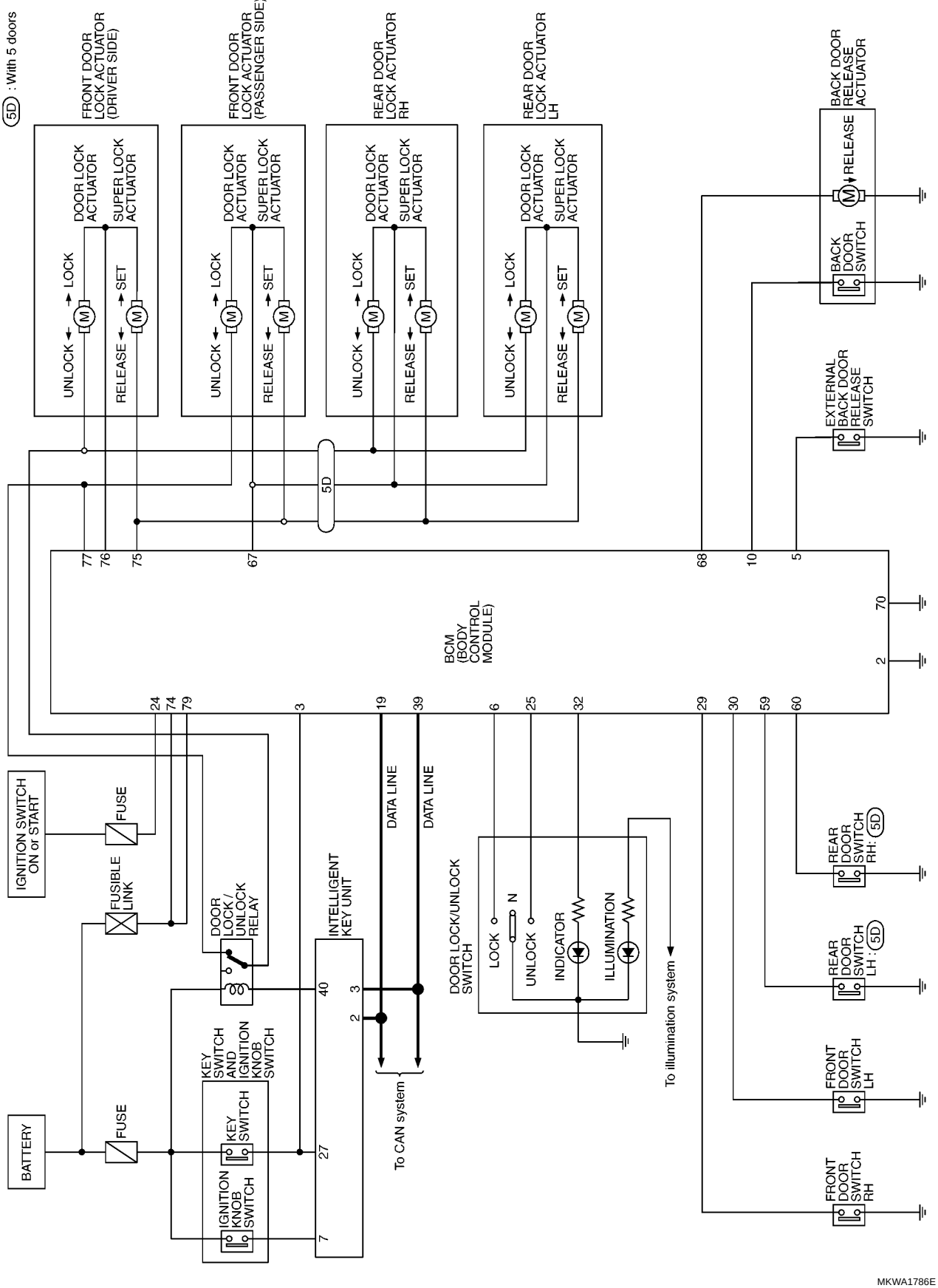




MKWA0880E

Schematic – S/LOCK – (With Intelligent Key System)

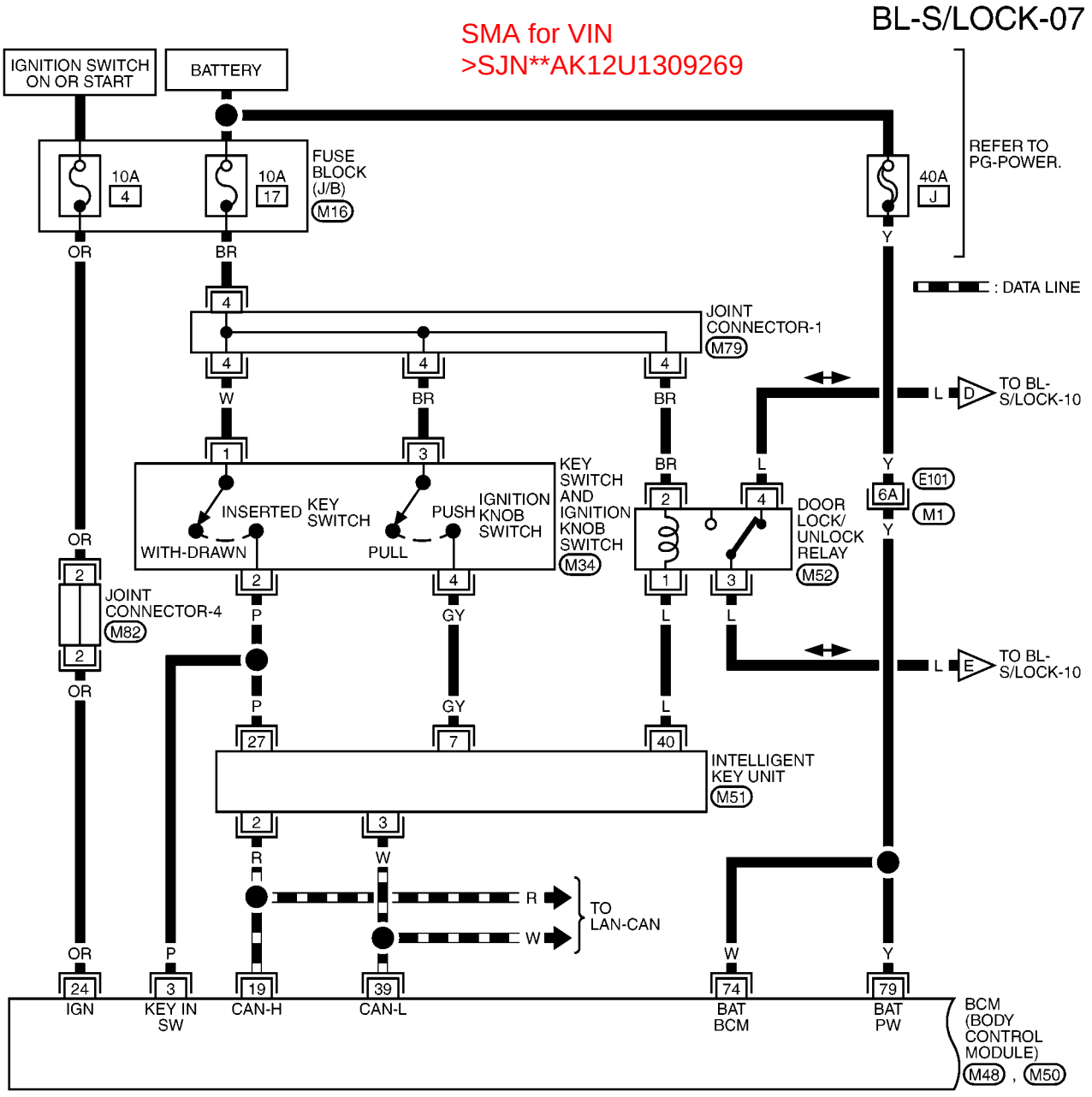
EIS0054Q

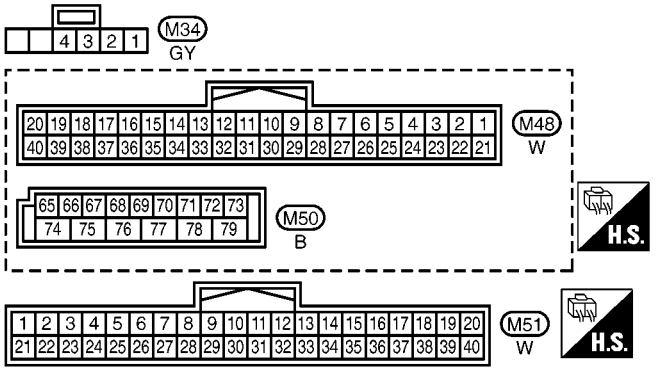


MKWA1786E

Wiring Diagram — S/LOCK — (With Intelligent Key System)

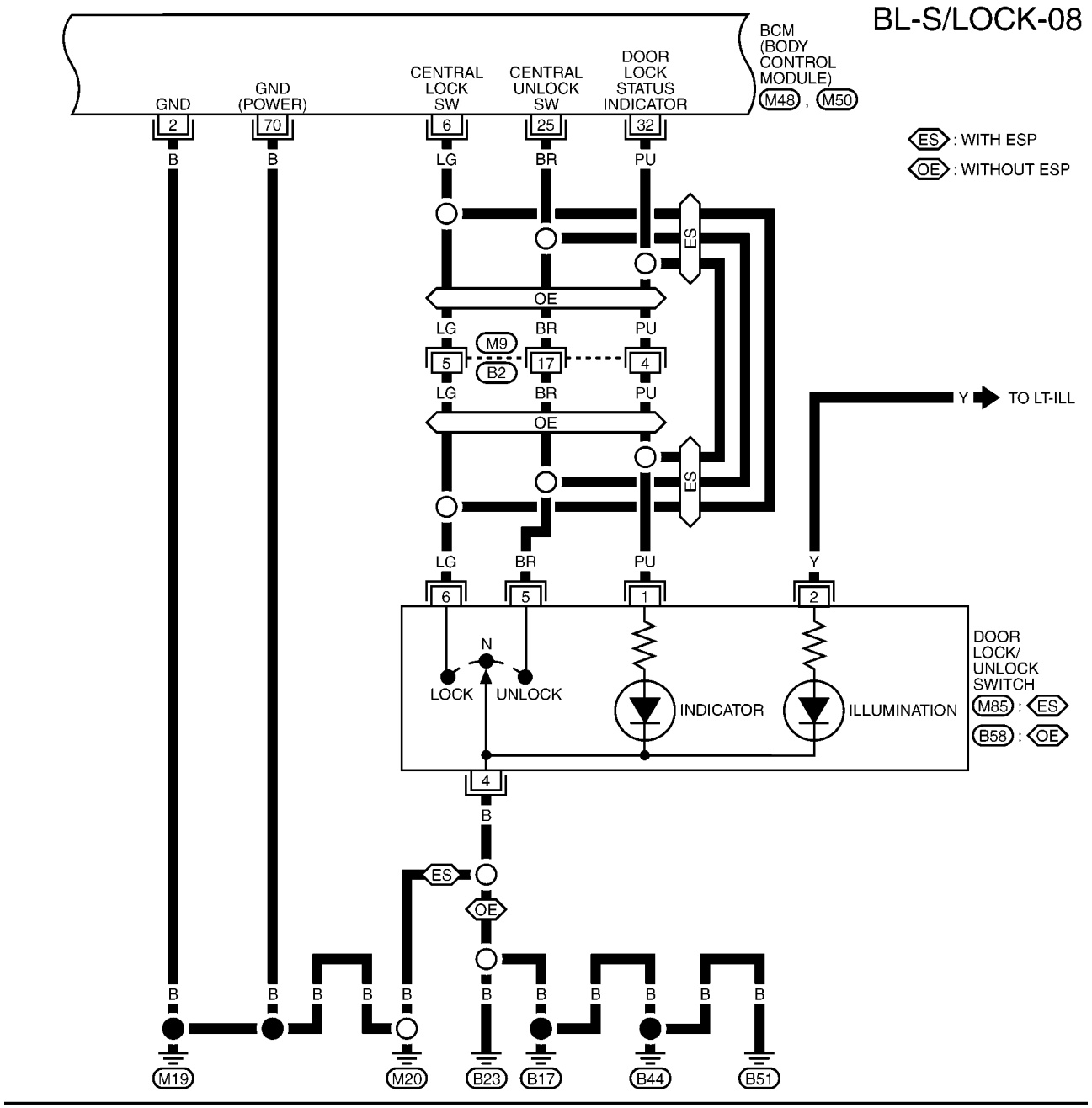
EIS0054R

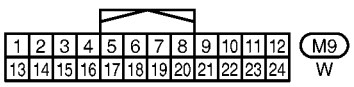


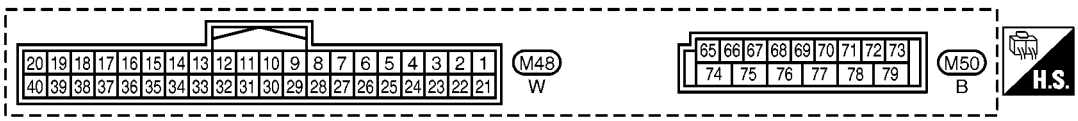


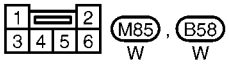
REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK- JUNCTION BOX (J/B)
M79 , M82 -JOINT CONNECTOR (J/C)

MKWA1787E


BL-S/LOCK-08
BCM (BODY CONTROL MODULE)
M48 , M50
GND
GND (POWER)
CENTRAL LOCK SW
CENTRAL UNLOCK SW
DOOR LOCK STATUS INDICATOR
2
70
6
25
32
B
B
LG
BR
PU
ES : WITH ESP
OE : WITHOUT ESP
ES
OE
M9
B2
5
17
4
Y
TO LT-ILL
6
5
1
2
N
LOCK
UNLOCK
INDICATOR
ILLUMINATION
DOOR LOCK/ UNLOCK SWITCH
M85 : ES
B58 : OE
4
M19
M20
B23
B17
B44
B51


1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
M9
W

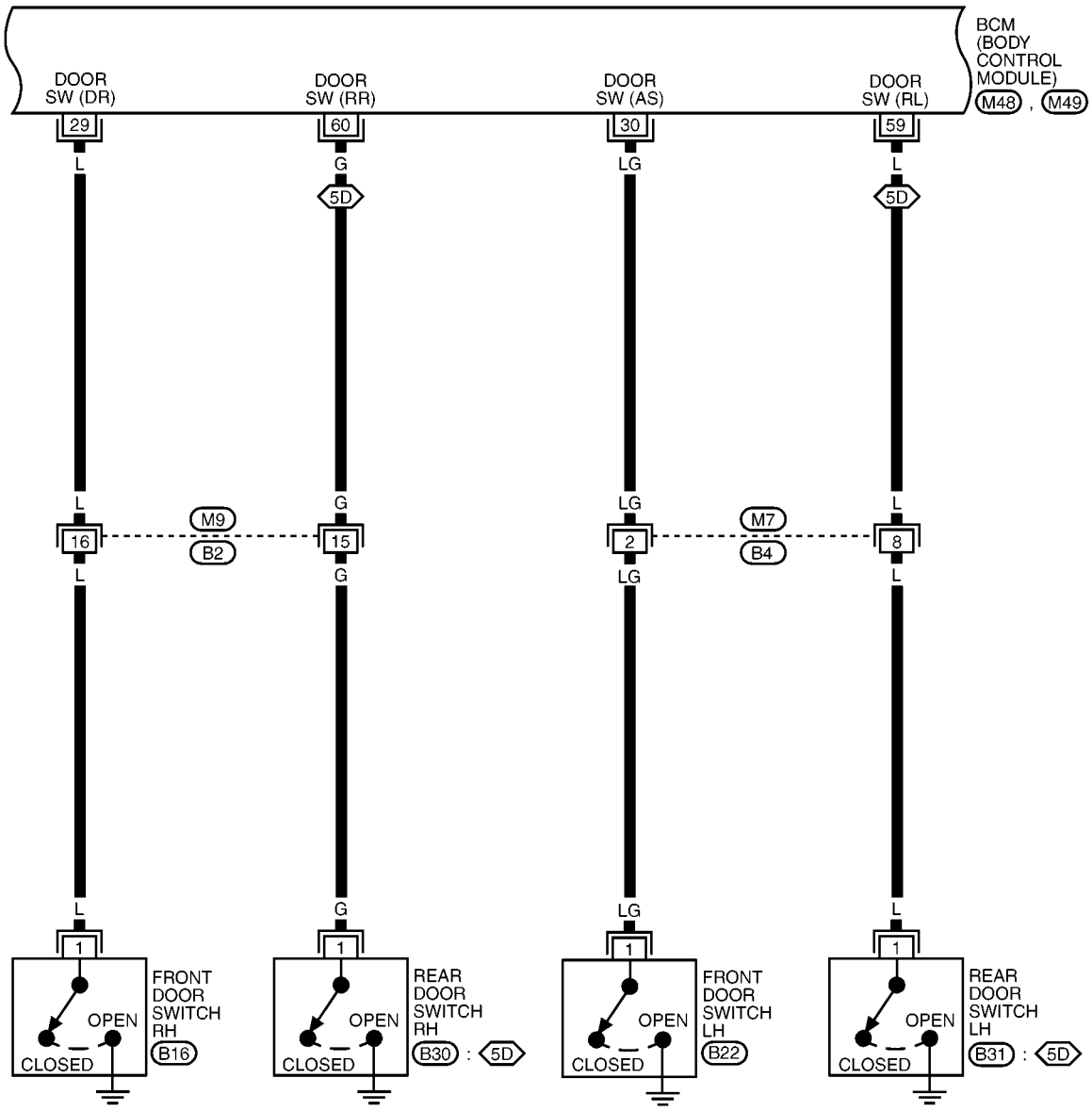

20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21
M48
W
65 66 67 68 69 70 71 72 73
74 75 76 77 78 79
M50
B
H.S.

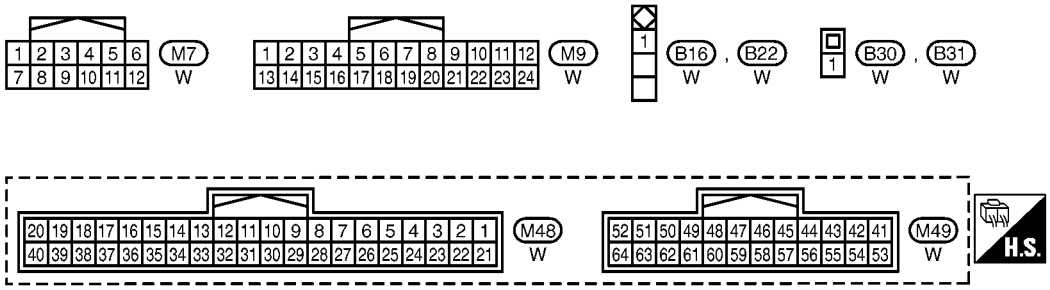

1 2
3 4 5 6
M85 , B58
W W

MKWA1788E

BL-S/LOCK-09

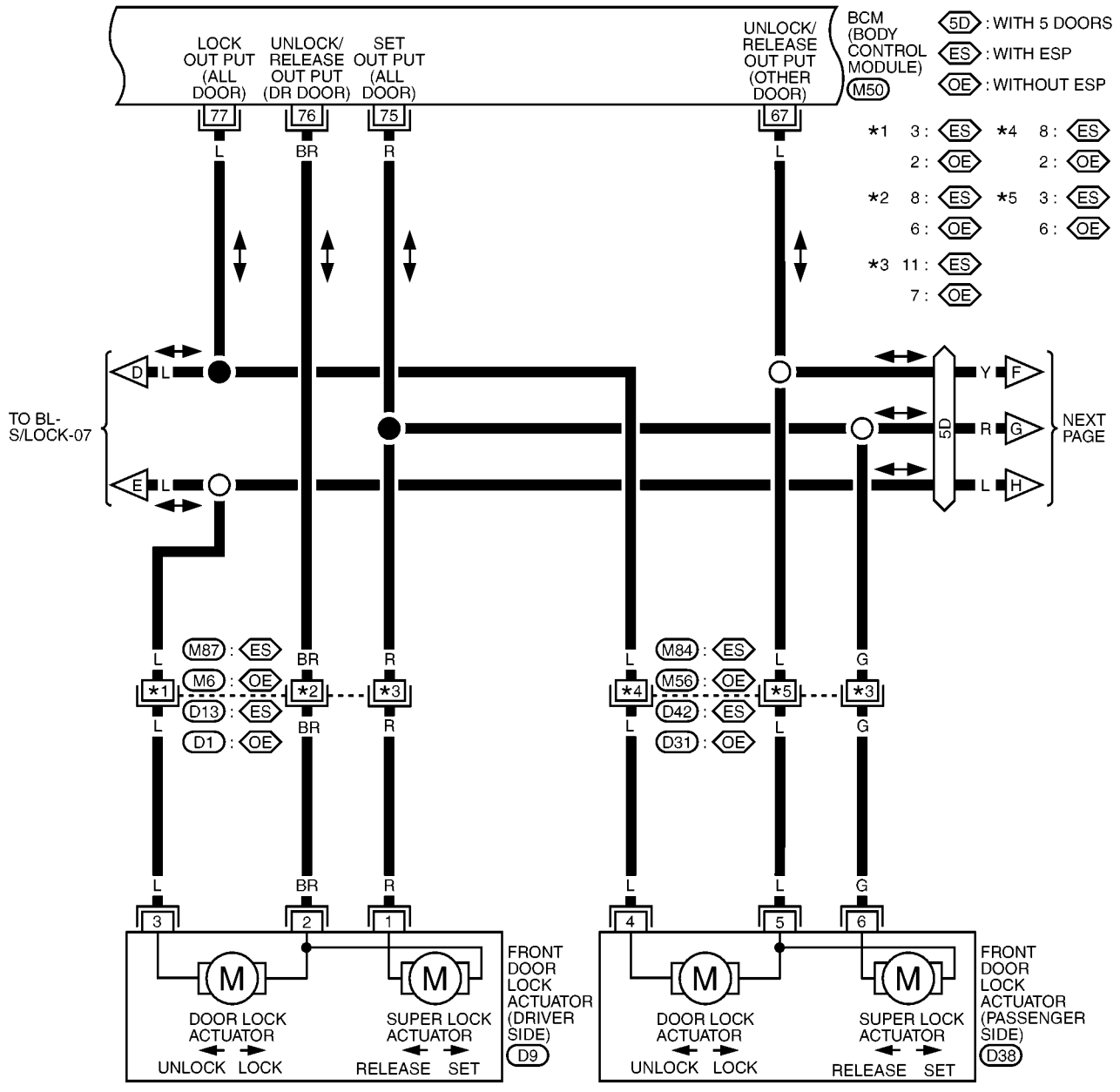
5D : WITH 5 DOORS

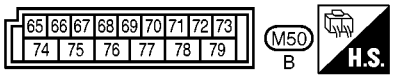


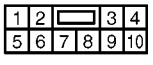


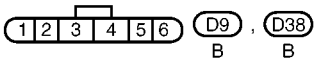
MKWA0884E

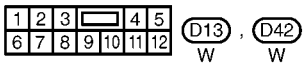
BL-S/LOCK-10





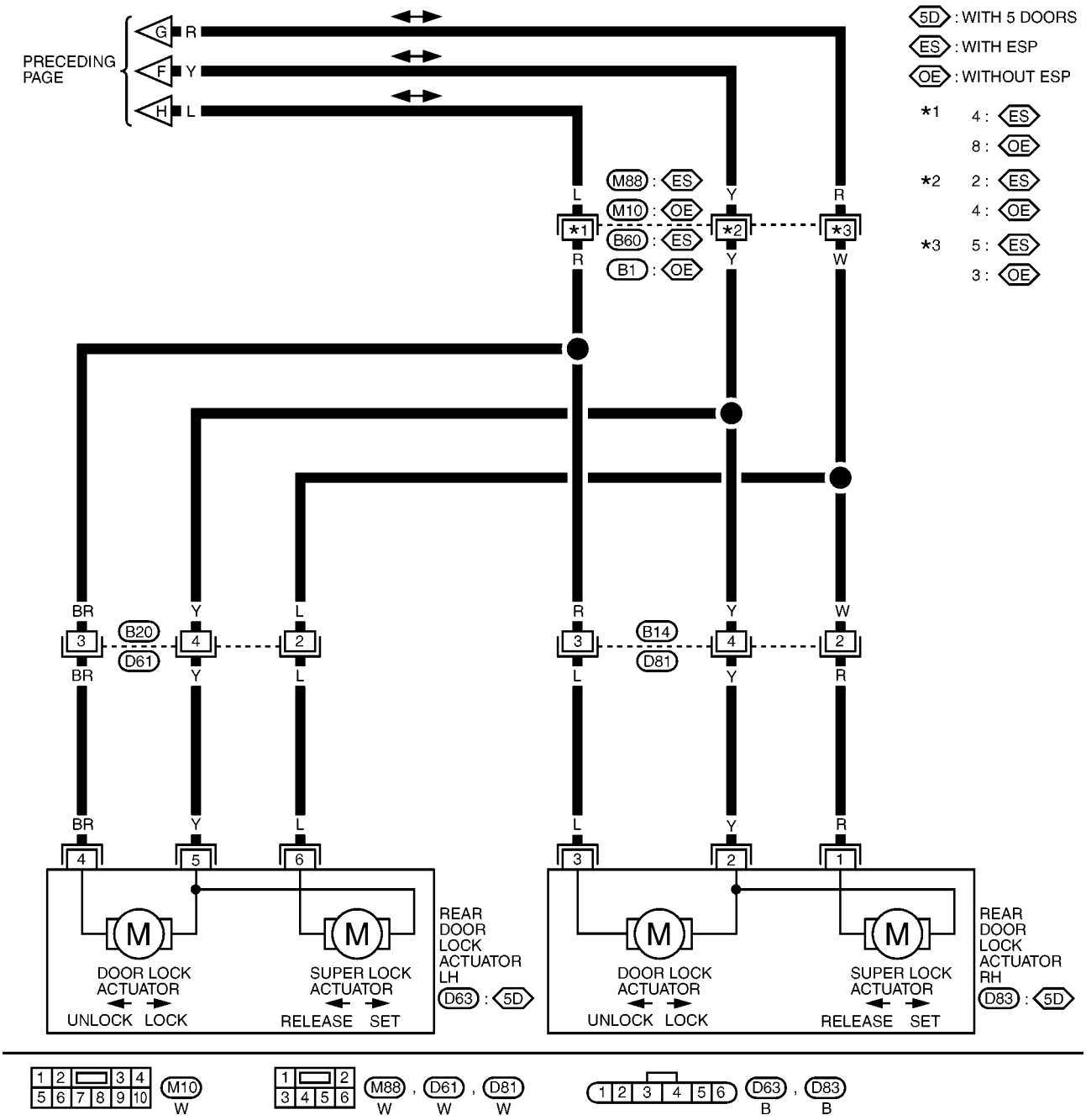






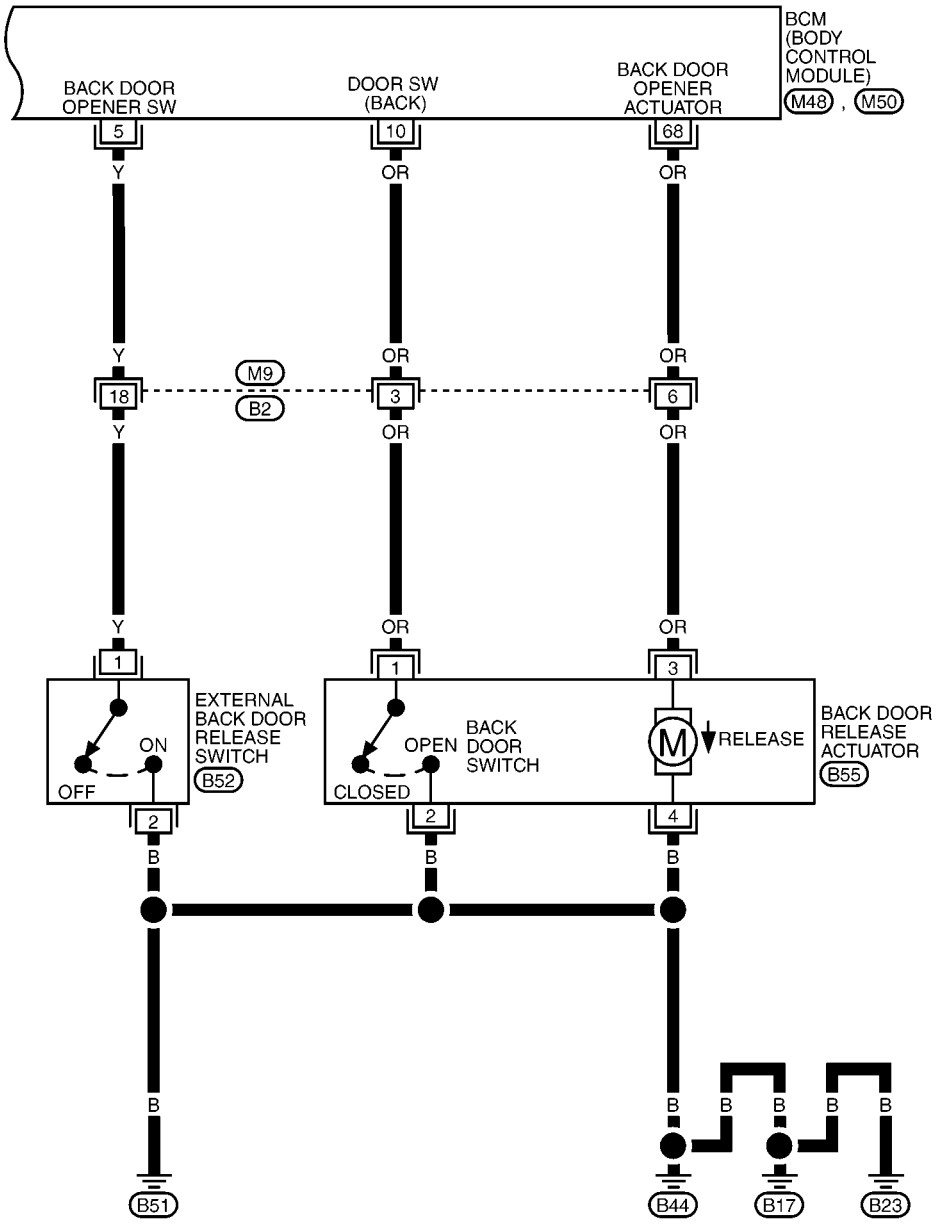
MKWA1789E

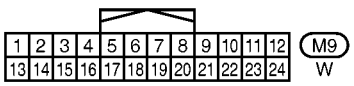
BL-S/LOCK-11

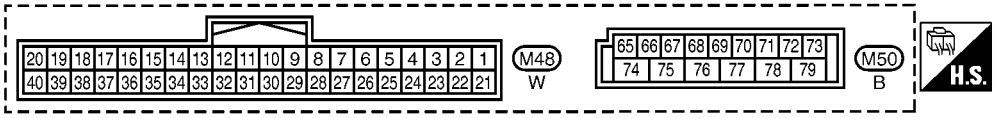


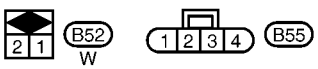
MKWA1790E

BL-S/LOCK-12









MKWA0887E

Terminal and Reference Value for Smart Entrance Control Unit

EIS004XS

Terminal	Wire color	Item	Condition	Voltage (V) (Approx.)
2	B	Ground	—	0
3	OR (P)	Key switch	Key inserted (ON) → key removed from IGN key cylinder (OFF)	Battery voltage → 0
5	Y	External back door release switch	Release switch open operation	5 → 0
6	LG	Door lock / unlock switch (Lock signal)	Lock operation (ON)	0
			Other than above (OFF)	5
10	OR	Back door switch	Open (ON) → Close (OFF)	0 → 5
19	R	CAN-H	—	—
24	OR	IGN power supply	Ignition switch (ON or START position)	Battery voltage
25	BR	Door lock/unlock switch (Unlock signal)	Unlock operation (ON)	0
			Other than above (OFF)	5
29	L	Front door switch RH	Door open (ON) → close (OFF)	0 → Battery voltage
30	LG	Front door switch LH	Door open (ON) → close (OFF)	0 → Battery voltage
32	PU	Door lock status indicator	Goes OFF→ Illuminates (Ignition switch ON and all door closed)	0 → Battery voltage
39	W	CAN-L	—	—
59	L	Rear door switch LH	Door open (ON) → close (OFF)	0 → Battery voltage
60	G	Rear door switch RH	Door open (ON) → close (OFF)	0 → Battery voltage
67	L	Door lock actuator & super lock actuator unlock signal (Passenger and rear LH, RH doors)	Door lock / unlock switch & remote controller unlock operation *	0 → Battery voltage
68	OR	Back door release actuator	Power window main switch (Trunk or back door release switch) Open operation	Battery voltage → 0
70	B	Ground (Power)	—	0
74	W	BAT power supply (BCM)	—	Battery voltage
75	R	Super lock actuator lock signal (All doors)	Remote controller lock operation	0 → Battery voltage
76	BR	Door lock actuator & super loci actuator unlock signal (Driver side)	Door lock / unlock switch & remote controller unlock operation *	0 → Battery voltage
77	L	Door lock actuator lock signal (All doors)	Door lock/unlock switch & remote controller lock operation	0 → Battery voltage
79	Y	BAT power supply (PW)	—	Battery voltage

() : With Intelligent Key switch models

* : It is operation only of door lock actuator to operate door lock / unlock switch.

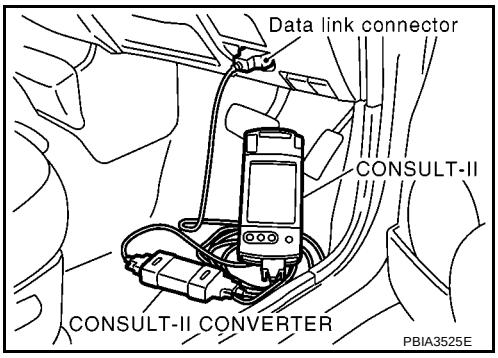
CONSULT- II Inspection Procedure

EIS004XT

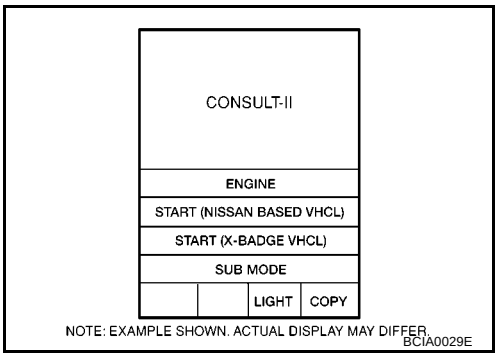
CAUTION:

If CONSULT-II is used with no connector of CONSULT-II CONVERTER, malfunction might be detected in self-diagnosis depending on control which carry out CAN communication.

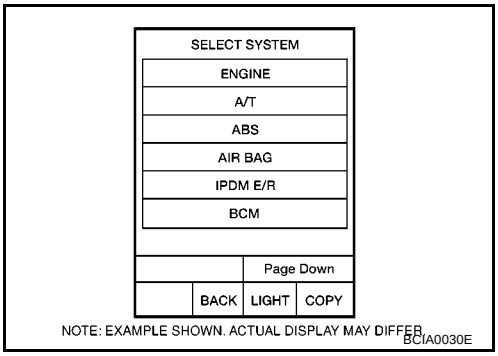
1. Turn ignition switch “OFF”.
2. Connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector.



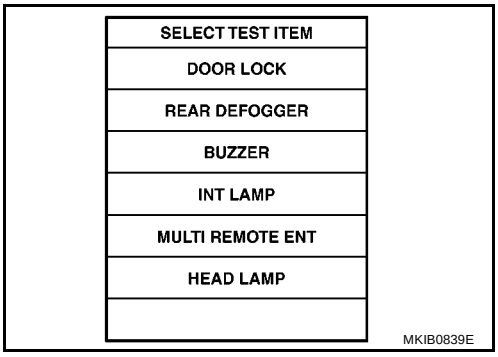
3. Turn ignition switch “ON”.
4. Touch “START (NISSAN BASED VHCL)”.



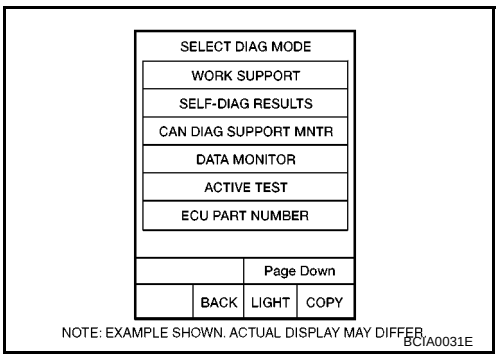
5. Touch “BCM”.



6. Touch “DOOR LOCK” .



7. Select diagnosis mode.
“WORK SUPPORT”, “DATA MONITOR” and “ACTIVE TEST” are available.



CONSULT- II Application Items

EIS004XU

WORK SUPPORT

Supported Item	Description
SECURITY DOOR LOCK SET	Anti-hijack function mode can be changed in this mode.
AUTO LOCK SET	Auto locking function mode can be changed in this mode.

Security Door Lock Set

	ON	OFF
Anti hijack function	Activation	Deactivation

Auto Lock Set

	MODE1	MODE2	MODE3	MODE4	MODE5	MODE6*	MODE7*	MODE8*
Auto locking function	1 minute	2 minutes	3 minutes	4 minutes	5 minutes	–	–	–

*: These mode are not supported.

DATA MONITOR

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
PUSH SW (*1)	Indicates [ON/OFF] condition ignition knob switch.
KEY IN SW (*2)	Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/ unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/ unlock switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch (RH).
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch (LH).
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
TRNK OPNR SW	Indicates [ON/OFF] condition of external back door release switch.

*1: Models with Intelligent Key System.
*2: Models without Intelligent Key System.

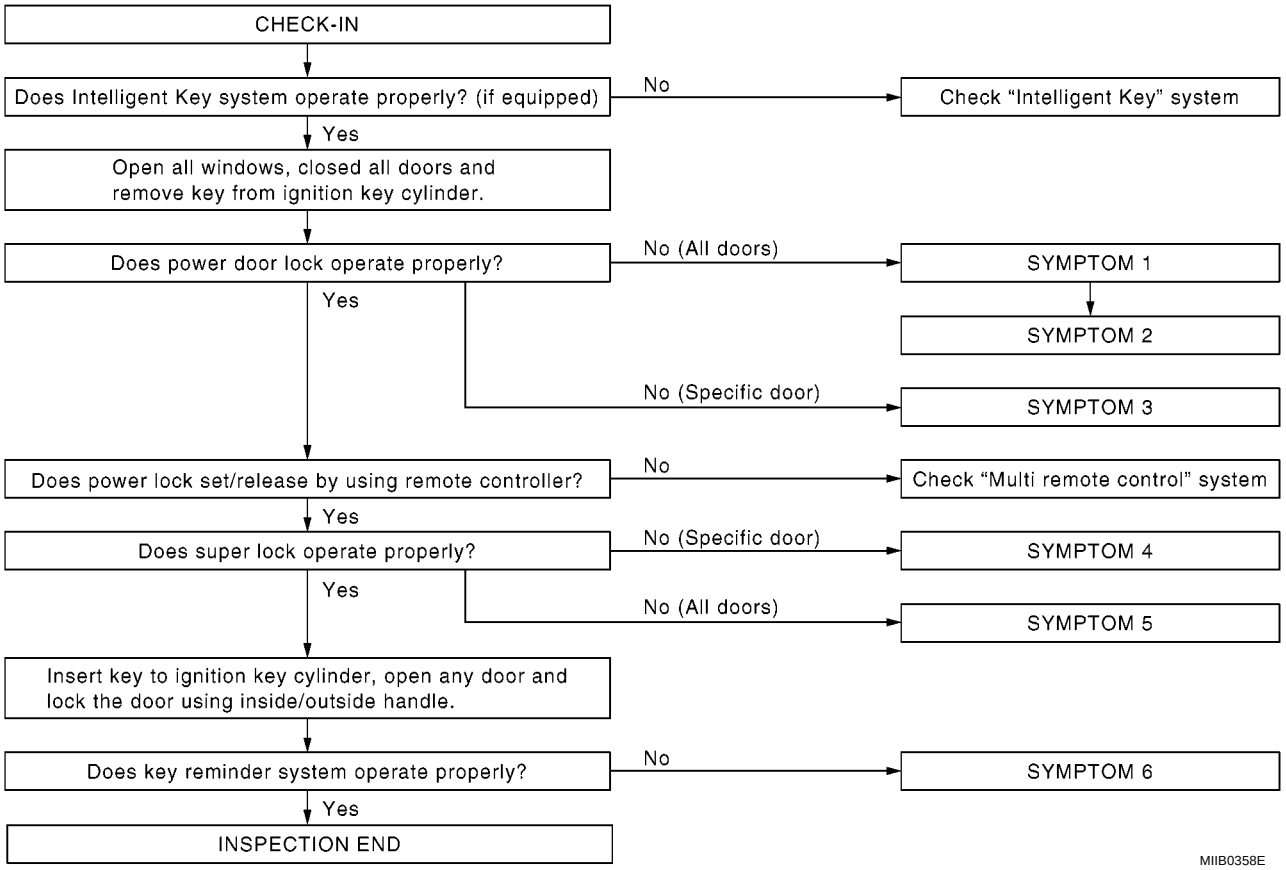
WORK SUPPORT

Monitored Item	Description
DOOR LOCK	This test is able to check all door lock actuator (except for back door) lock / unlock operation. These actuator lock / unlock when “LOCK” or “UNLOCK” on CONSULT-II screen is touched.
TRUNK / BACK DOOR	This test is able to check back door release actuator open operation. These actuator open when “OPEN” on CONSUT-II screen in touched.

Trouble Diagnoses

EIS004XV

PRELIMINARY CHECK



After performing preliminary check, go to SYMPTOM CHART.
Before starting trouble diagnoses below, perform preliminary check.
Symptom numbers in the symptom chart correspond with those of Preliminary check.

SYMPTOM CHART

Symptom	Malfunctioning system	Refer to page
SYMPTOM 1 Power door lock does not operate with door lock / unlock switch	1. Power supply and ground circuit check	BL-105
	2. Key switch check	BL-107
	3. Door lock / unlock switch check.	BL-106
	4. Replace BCM.	BCS-31
SYMPTOM 2 Power door lock does not operate with door lock / unlock switch.	1. Power door lock / unlock output signal check.	BL-109
	2. Replace BCM.	BCS-31
SYMPTOM 3 Specific door lock actuator does not operate.	1. Door lock actuator check.	BL-111
	2. Replace BCM.	BCS-31
SYMPTOM 4 Super lock does not operate.	1. Super lock output signal check.	BL-110
	2. Replace BCM.	BCS-31
SYMPTOM 5 Specific super lock does not unlock operate.	1. Super lock actuator check.	BL-115
	2. Replace BCM.	BCS-31
SYMPTOM 6 Key reminder system does not operate.	1. Door switch check.	BL-119
	2. Replace BCM.	BCS-31
SYMPTOM 7 Back door does not open. But power door lock operate is properly.	1. External back door release switch check.	BL-127
	2. Back door release actuator check.	BL-129
	3. Replace BCM.	BCS-31

Power Supply and Ground Circuit Check

EIS0054S

First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, then perform the each trouble diagnosis of malfunction system indicated “SELF-DIAG RESULTS” of “BCM”, Refer to BCS-22, "CONSULT-II Function (BCM)" .

1. FUSE INSPECTION

- Check 10A fuse [No.4, located in fuse block (J/B)]
- Check 40A fusible link (letter **J** located in the fuse and fusible link box).

NOTE:
Refer to BL-70, "Component Parts and Harness Connector Location" .

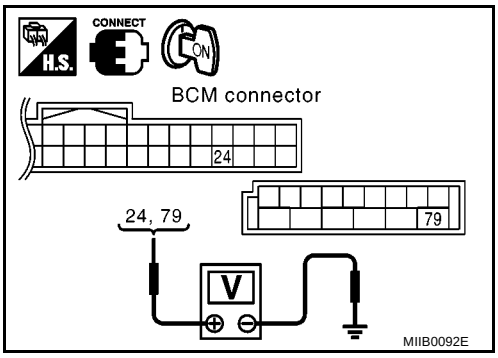
OK or NG

OK >> GO TO 2
NG >> If fuse is blown out, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-4, "POWER SUPPLY ROUTING" .

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between BCM connector M48, M50 terminal 24, 79 and ground.

24 (OR) – Ground :Battery voltage.
79 (Y) – Ground :Battery voltage.



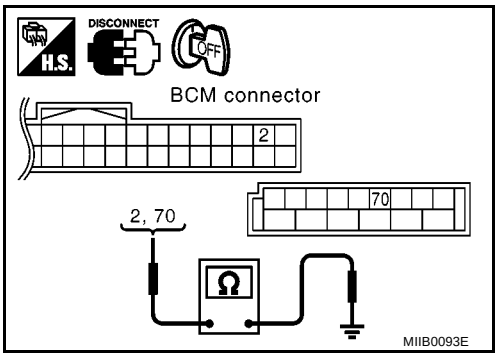
OK or NG

OK >> GO TO 3
NG >> Check BCM power supply circuit for open or short.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM connector M48, M50 terminal 2, 70 and ground.

2 (B) – Ground :Continuity should exist.
70 (B) – Ground :Continuity should exist.



OK or NG

OK >> Power supply and ground circuit is OK.
NG >> Check BCM ground circuit for open or short.

Door Lock / Unlock Switch Check

EIS004XY

1. CHECK DOOR LOCK / UNLOCK SWITCH SIGNAL

With CONSULT- II

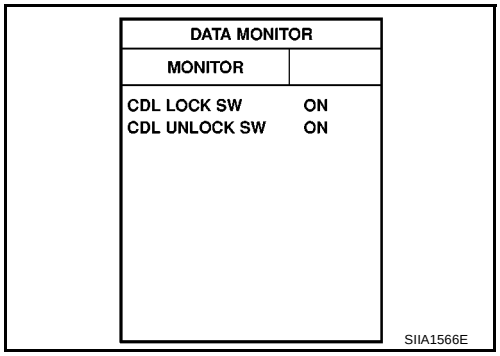
Check door lock / unlock switch input signal (“CDL LOCK SW” “CDL UNLOCK SW”) in “DATA MONITOR” mode with CONSULT- II.

When door lock/unlock switch is turned to LOCK:

CDL LOCK SW ⇒ ON

When door lock/unlock switch is turned to UNLOCK:

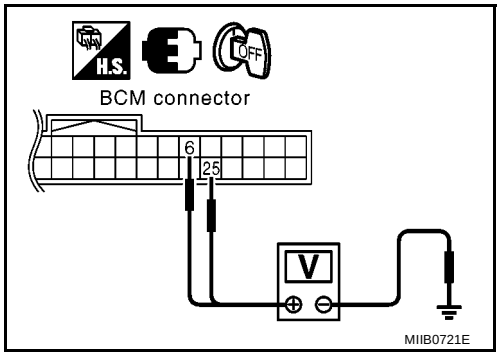
CDL UNLOCK SW ⇒ ON



Without CONSULT- II

Door lock / unlock switch operate, check voltage between BCM connector and ground.

Connector	Terminals (Wire color) (+)	Terminals (Wire color) (-)	Condition	Voltage (V) (Approx.)
M48	6 (LG)	Ground	Lock	0
			Neutral / Unlock	5
	25 (BR)		Unlock	0
			Neutral / Lock	5



OK or NG

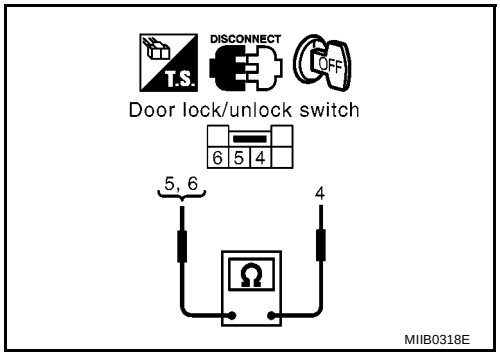
OK >> Door lock / unlock switch is OK.

NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect door lock / unlock switch connector.
3. Check continuity between door lock / unlock switch terminals 5, 6 and 4.

Terminals		Condition	Continuity
5	4	Unlock	YES
		Neutral / Lock	NO
6		Lock	YES
		Neutral / Unlock	NO



OK or NG

OK >> Check the following.

- Ground circuit for door lock / unlock switch
- Harness for open or short between BCM and door lock / unlock switch.

NG >> Replace door lock / unlock switch.

Check Key Switch /Without Intelligent Key System

EIS00AQ1

1. CHECK KEY SWITCH INPUT SIGNAL

With CONSULT-II

Check key switch input signal “KEY ON SW” in “DATA MONITOR” mode with CONSULT- II.

When key is inserted in ignition key cylinder:

KEY IN SW ⇒ ON

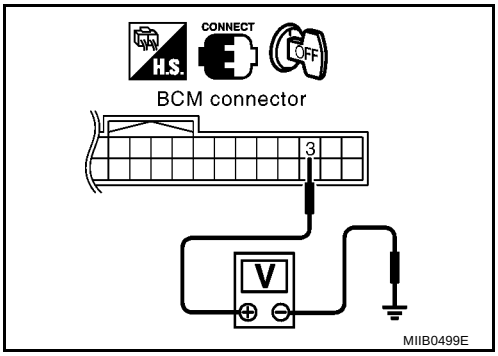
When key is removed from ignition key cylinder:

KEY IN SW ⇒ OFF

Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	3 (OR)	Ground	Key is inserted	Battery voltage
			Key is removed	0



OK or NG

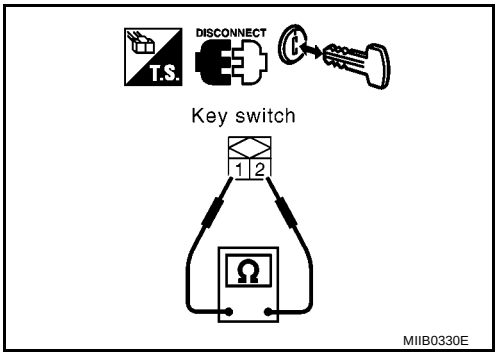
OK >> Key switch is OK.

NG >> GO TO 2.

2. CHECK KEY SWITCH (INSERT)

1. Turn ignition switch OFF.
2. Disconnect key switch connector.
3. Check continuity between key switch terminals 1 and 2.

Terminals		Condition	Continuity
1	2	Key is inserted	YES
		Key is removed	NO



OK or NG?

OK >> Check the following.

- 10A fuse [No. 6, located in fuse block (J/B)].
- Harness for open or short between key switch and fuse.
- Harness for open or short between BCM and key switch.

NG >> Replace key switch.

Check Key Switch/With Intelligent Key System

EIS00AQ2

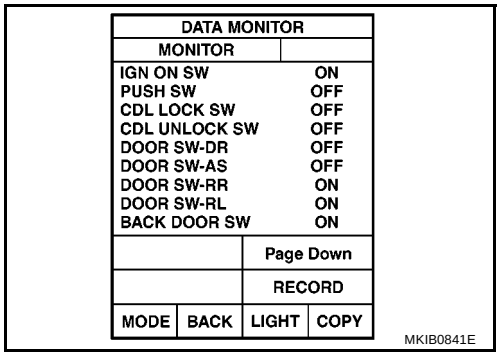
1. KEY SWITCH INSPECTION

With CONSULT-II

Display “PUSH SW” on DATA MONITOR screen, and check if ON-OFF display is linked to ignition knob switch operation.

When ignition knob is pushed : PUSH SW ON

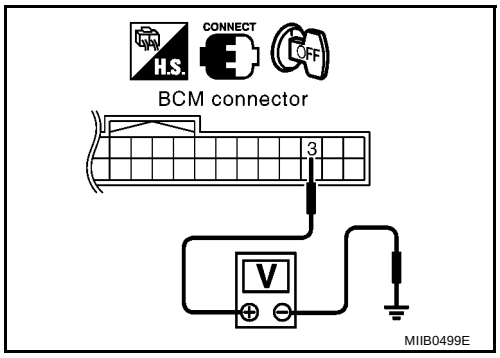
When ignition knob is released : PUSH SW OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	3 (OR)	Ground	Key is inserted	Battery voltage
			Key is removed	0



OK or NG

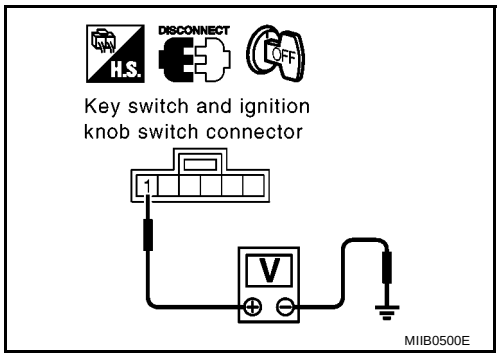
OK >> Key switch is OK.

NG >> GO TO 2.

2. KEY SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Remove mechanical key from ignition knob.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch connector M34 terminal 1 and ground.

1 (W) - Ground : Approx. 12V



OK or NG

OK >> GO TO 3.

NG >> Repair or replace key switch power supply circuit.

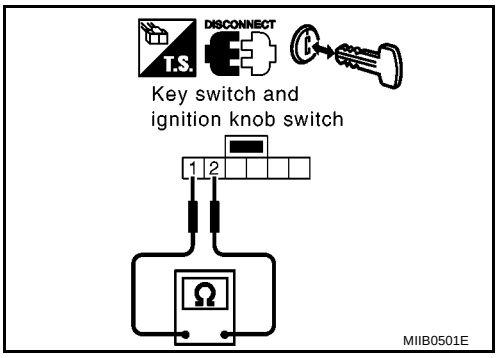
3. KEY SWITCH OPERATION INSPECTION

1. Insert mechanical key into ignition knob.
2. Check continuity between key switch and ignition knob switch connector M34 terminal 1 and 2.

1 - 2

Insert mechanical key into ignition knob. **: Continuity should exist.**

Remove mechanical key from ignition knob. **: Continuity should not exist.**



OK or NG

OK >> GO TO 4.
NG >> Replace key switch.

4. KEY SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M51 terminal 27 and key switch and ignition knob switch connector M34 terminal 2.

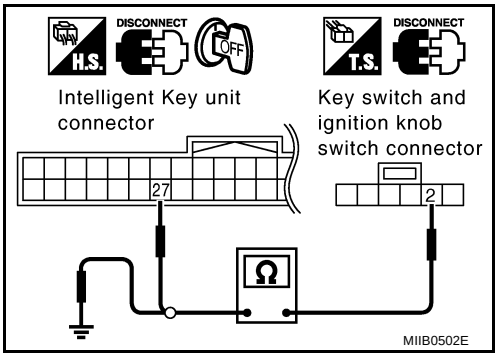
27 (P) - 2 (P) **: Continuity should exist.**

3. Check continuity between key switch connector M34 terminal 2 and ground.

2 (P) - Ground **: Continuity should not exist.**

OK or NG

OK >> Key switch is OK.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.



Power Door Lock / Unlock Output Signal Check.

EIS00AQ3

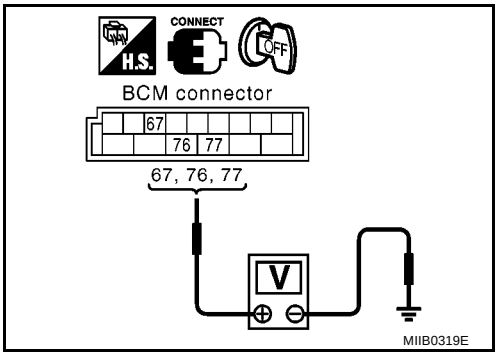
1. CHECK POWER DOOR LOCK OUTPUT SIGNAL

Door lock / unlock switch operate, check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M50	67 (L)	Ground	Unlock	0 → Battery voltage→ 0
	76 (BR)		Unlock	0 → Battery voltage→ 0
	77 (L)		Lock	0 → Battery voltage→ 0

OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Replace BCM.



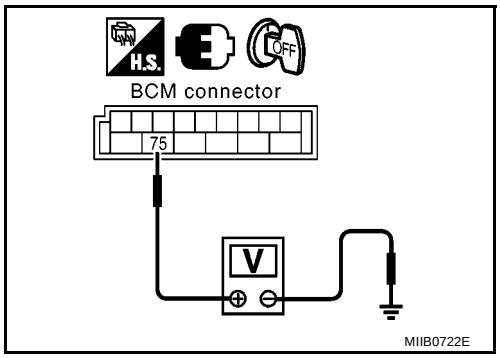
Super Lock Output Signal Check.

EIS00AQ4

1. CHECK SUPER LOCK OUTPUT SIGNAL

Remote controller operate, check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M50	75 (R)	Ground	Lock button is pressed.	0 → Battery voltage→ 0



OK or NG

OK >> Check the condition of the harness and connector.
NG >> Replace BCM.

Door Lock Actuator Check

EIS00AQ5

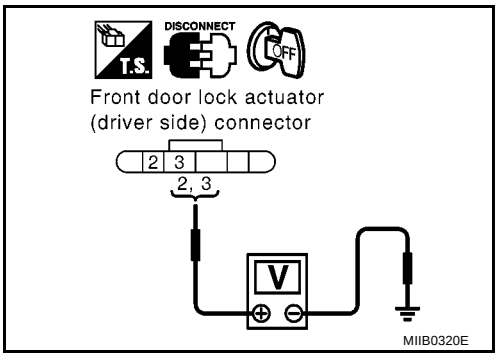
SMA for VIN >SJN**AK12U1309269

DRIVER SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect front door lock actuator (driver side) connector.
3. Door lock / unlock switch operate, check voltage between front door lock actuator (driver side) connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D9	2 (BR)	Ground	Unlock	0 → Battery voltage → 0
	3 (L)		Lock	0 → Battery voltage → 0



OK or NG

OK >> Replace front door lock actuator (driver side).
NG >> GO TO 2.

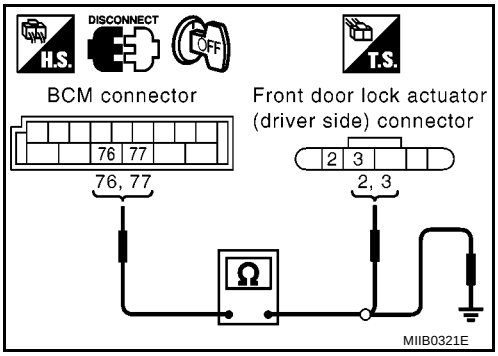
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 76, 77 and front door lock actuator (driver side) connector D9 terminal 2, 3.

76 (BR) – 2 (BR) : Continuity should exist.
77 (L) – 3 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 76, 77 and ground.

76 (BR) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

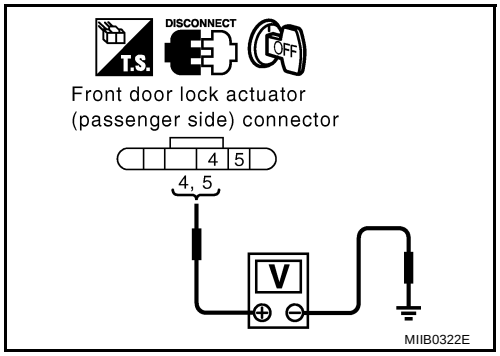
OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

PASSENGER SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect front door lock actuator (passenger side) connector.
3. Door lock / unlock switch operate, check voltage between front door lock actuator (passenger side) connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D38	4 (L)	Ground	Lock	0 → Battery voltage → 0
	5 (L)		Unlock	0 → Battery voltage → 0



OK or NG

OK >> Replace front door lock actuator (passenger side).
NG >> GO TO 2.

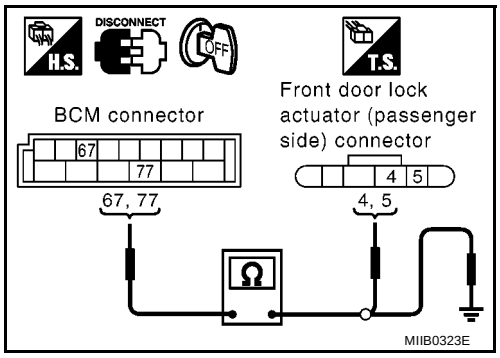
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 67, 77 and front door lock actuator (passenger side) connector D38 terminal 4, 5.

67 (L) – 5 (L) : Continuity should exist.
77 (L) – 4 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 67, 77 and ground.

67 (L) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

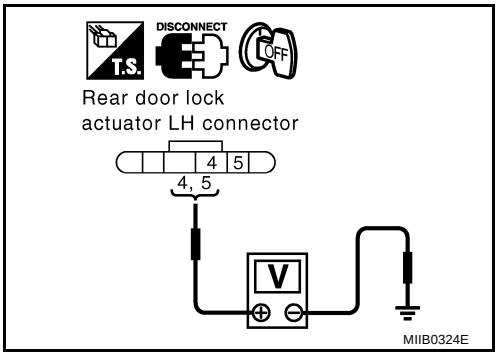
OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

REAR LH SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect rear door lock actuator LH connector.
3. Door lock / unlock switch operate, check voltage between rear door lock actuator LH connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D63	4 (BR)	Ground	Lock	0 → Battery voltage → 0
	5 (Y)		Unlock	0 → Battery voltage → 0



OK or NG

OK >> Replace rear door lock actuator LH.
NG >> GO TO 2.

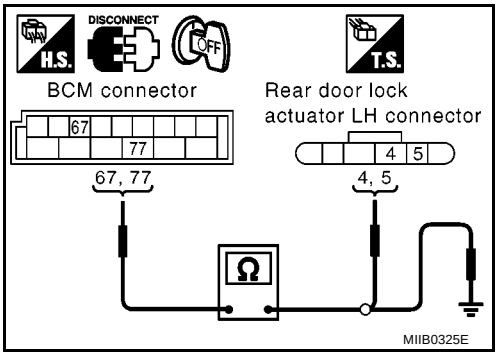
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 67, 77 and rear door lock actuator LH connector D63 terminal 4, 5.

67 (L) – 5 (Y) : Continuity should exist.
77 (L) – 4 (BR) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 67, 77 and ground.

67 (L) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

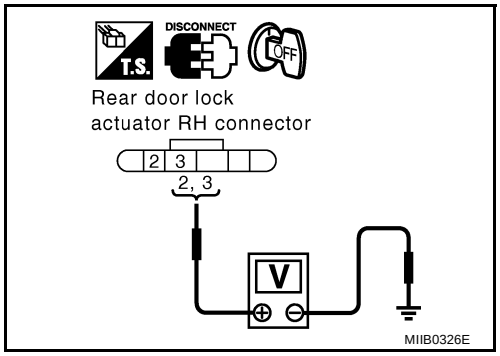
OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

REAR RH SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect rear door lock actuator RH connector.
3. Door lock / unlock switch operate, check voltage between rear door lock actuator RH connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D83	2 (Y)	Ground	Unlock	0 → Battery voltage → 0
	3 (L)		Lock	0 → Battery voltage → 0



OK or NG

OK >> Replace rear door lock actuator RH.
NG >> GO TO 2.

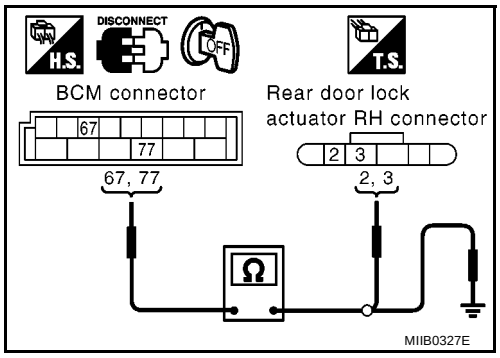
2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 67, 77 and rear door lock actuator RH connector D83 terminal 2, 3.

67 (L) – 2 (Y) : Continuity should exist.
77 (L) – 3 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 67, 77 and ground.

67 (L) – Ground : Continuity should not exist.
77 (L) – Ground : Continuity should not exist.



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

Super Lock Actuator Check

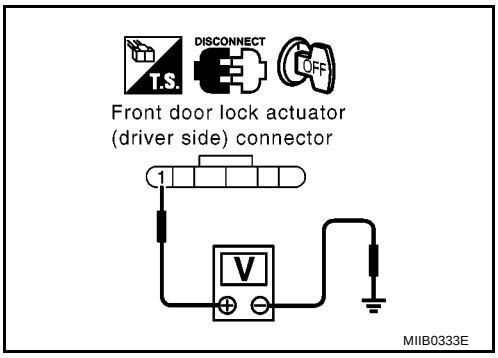
EIS00AQ6

DRIVER SIDE

1. CHECK SUPER LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect front door lock actuator (driver side) connector.
3. Door lock / unlock switch operate, check voltage between front door lock actuator (driver side) connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D9	1 (OR)	Ground	Lock button is pressed.	0 → Battery voltage → 0



OK or NG

OK >> Replace front door lock actuator (driver side).
NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 75 and front door lock actuator (driver side) connector D9 terminal 1.

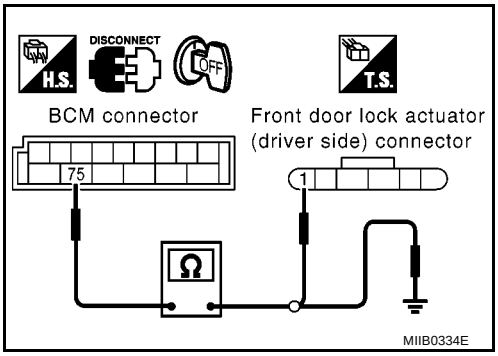
75 (R) – 1 (OR) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 75 and ground.

75 (R) – Ground : Continuity should not exist.

OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

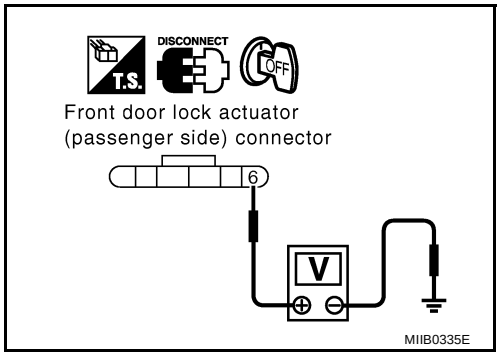


PASSENGER SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect front door lock actuator (passenger side) connector.
3. Remote controller operate, check voltage between front door lock actuator (passenger side) connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D38	6 (G)	Ground	Lock button is pressed.	0 → Battery voltage → 0



OK or NG

OK >> Replace front door lock actuator (passenger side).
NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 75 and front door lock actuator (passenger side) connector D38 terminal 6.

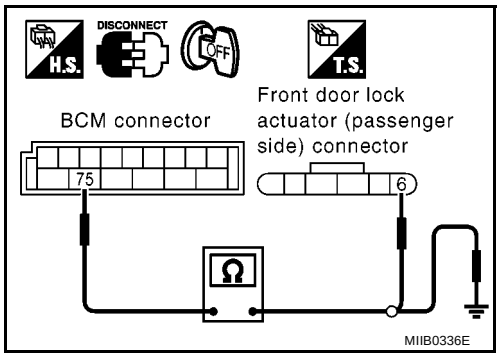
75 (R) – 6 (G) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 75 and ground.

75 (R) – Ground : Continuity should not exist.

OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

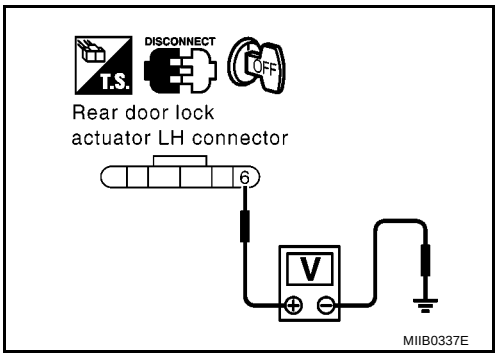


REAR LH SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect rear door lock actuator LH connector.
3. Remote controller operate, check voltage between rear door lock actuator LH connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D63	6 (L)	Ground	Lock button is pressed.	0 → Battery voltage → 0



OK or NG

OK >> Replace rear door lock actuator LH.
NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 75 and rear door lock actuator LH connector D63 terminal 6.

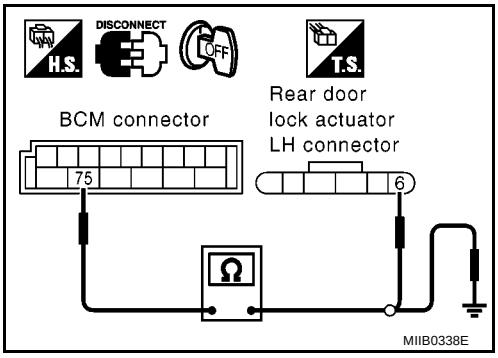
75 (R) – 6 (L) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 75 and ground.

75 (R) – Ground : Continuity should not exist.

OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.

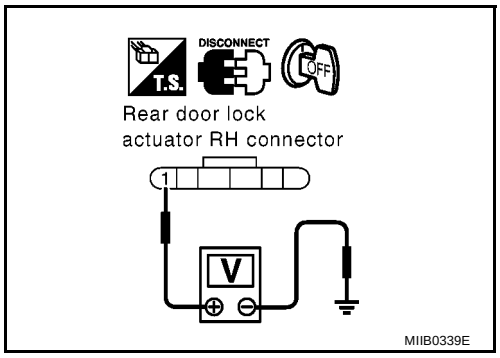


REAR RH SIDE

1. CHECK DOOR LOCK ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect rear door lock actuator RH connector.
3. Remote controller operate, check voltage between rear door lock actuator RH connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D83	1 (R)	Ground	Lock button is pressed.	0 → Battery voltage → 0



OK or NG

OK >> Replace rear door lock actuator RH.
NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 75 and rear door lock actuator RH connector D83 terminal 1.

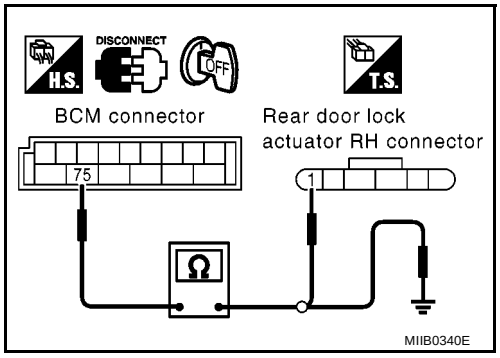
75 (R) – 1 (R) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 75 and ground.

75 (R) – Ground : Continuity should not exist.

OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.



Door Switch Check

EIS00AQ7

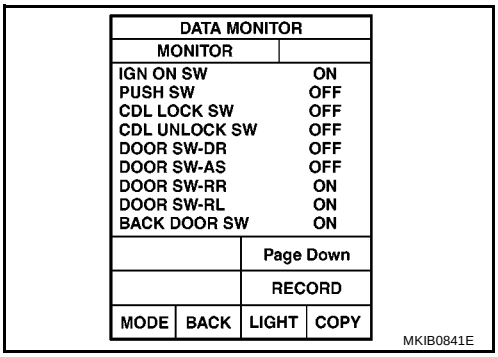
DRIVER SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

Check door switch “DOOR SW-DR” in “DATA MONITOR” mode with CONSULT- II.

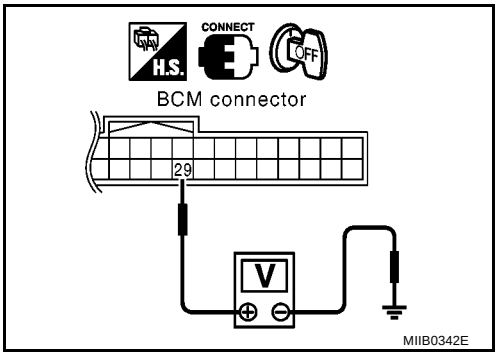
Monitor item	Condition	
DOOR SW-DR	OPEN	: ON
	CLOSE	:OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	29 (L)	Ground	OPEN	0
			CLOSE	Battery voltage



OK or NG

OK >> Front door switch RH is OK.
NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and front door switch RH connector.
3. Check continuity between BCM connector M48 terminal 29 and front door switch RH connector B16 terminal 1.

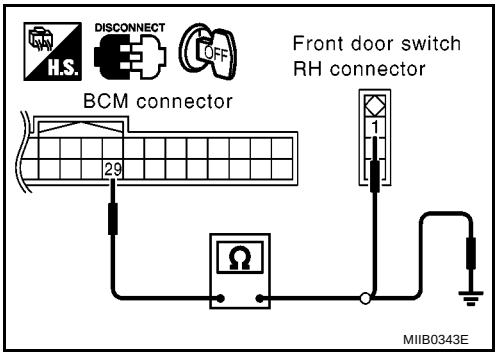
29 (L) – 1 (L) : Continuity should exist.

4. Check continuity between BCM connector M48 terminal 29 and ground.

29 (L) – Ground : Continuity should not exist.

OK or NG

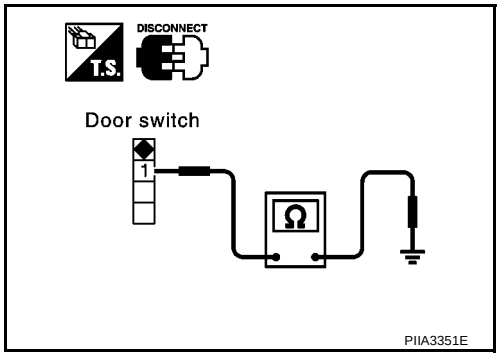
OK >> GO TO 3.
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Body ground part of door switch	Pushed	NO
		Released	YES



OK or NG

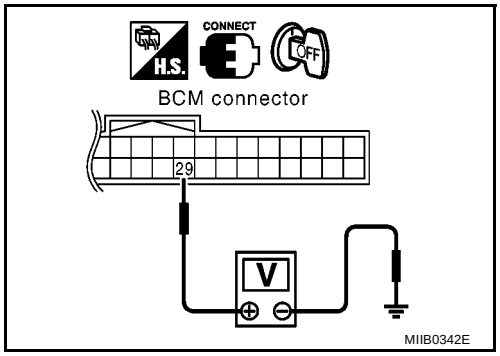
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M48 terminal 29 and ground.

Driver side door is closed.

29 (L) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

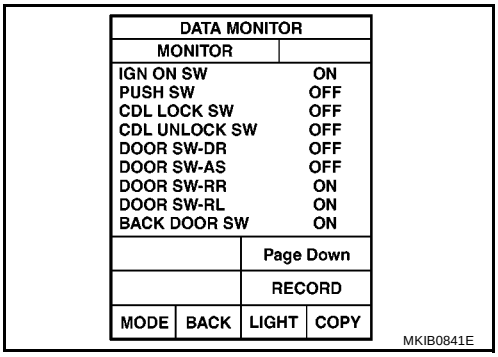
PASSENGER SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

Check door switch “DOOR SW-AS” in “DATA MONITOR” mode with CONSULT- II.

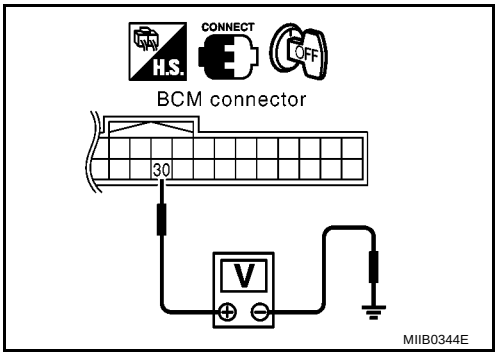
Monitor item	Condition	
DOOR SW-AS	OPEN	: ON
	CLOSE	:OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	30 (LG)	Ground	OPEN	0
			CLOSE	Battery voltage



OK or NG

OK >> Front door switch LH is OK.
NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and front door switch LH connector.
3. Check continuity between BCM connector M48 terminal 30 and front door switch LH connector B22 terminal 1.

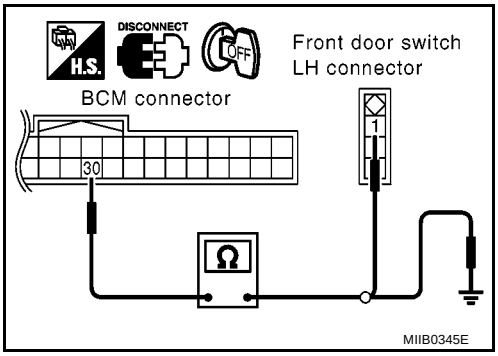
30 (LG) – 1 (LG) : Continuity should exist.

4. Check continuity between BCM connector M48 terminal 29 and ground.

30 (LG) – Ground : Continuity should not exist.

OK or NG

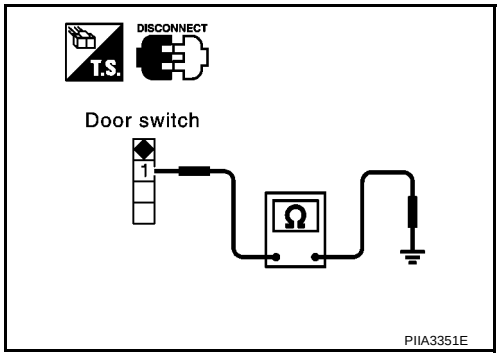
OK >> GO TO 3.
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Body ground part of door switch	Pushed	NO
		Released	YES



OK or NG

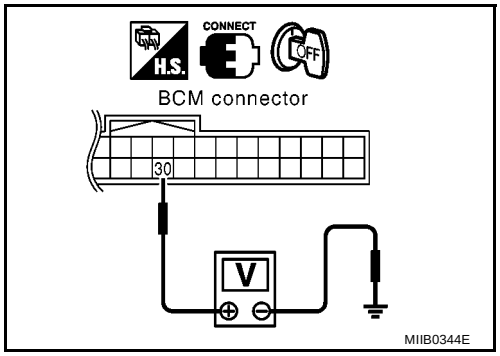
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M48 terminal 30 and ground.

Passenger side door is closed.

30 (LG) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

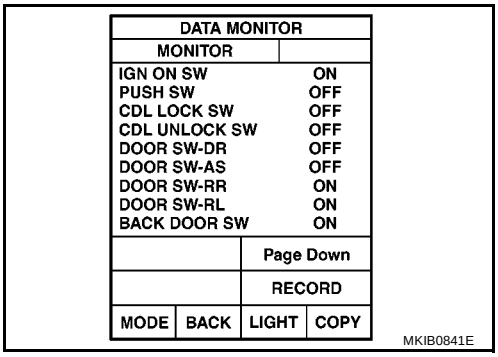
REAR LH SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

Check door switch “DOOR SW-RL” in “DATA MONITOR” mode with CONSULT- II.

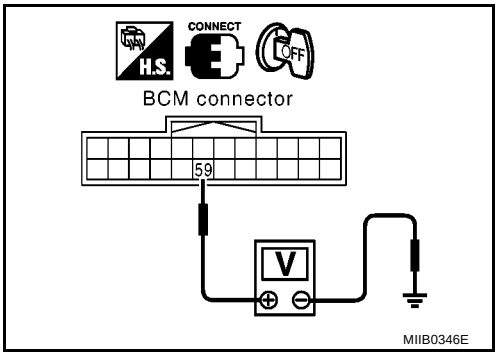
Monitor item	Condition	
DOOR SW-RL	OPEN	: ON
	CLOSE	:OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M49	59 (L)	Ground	OPEN	0
			CLOSE	Battery voltage



OK or NG

OK >> Rear door switch LH is OK.

NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and rear door switch LH connector.
3. Check continuity between BCM connector M49 terminal 59 and rear door switch LH connector B31 terminal 1.

59 (L) – 1 (L) : Continuity should exist.

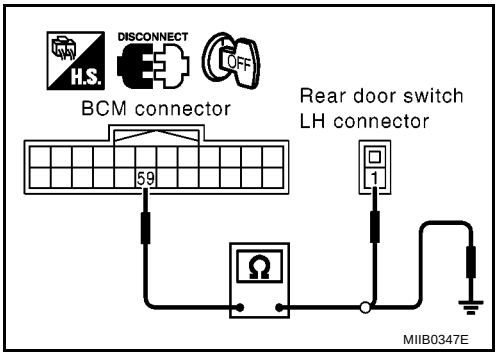
4. Check continuity between BCM connector M49 terminal 59 and ground.

59 (L) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

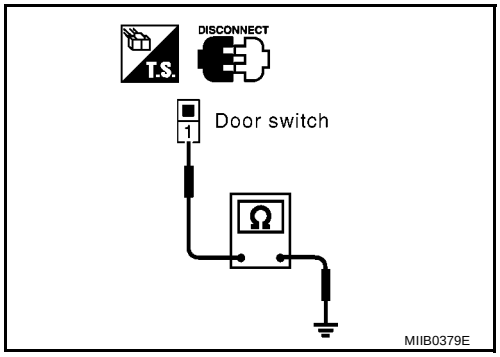
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Body ground part of door switch	Pushed	NO
		Released	YES



OK or NG

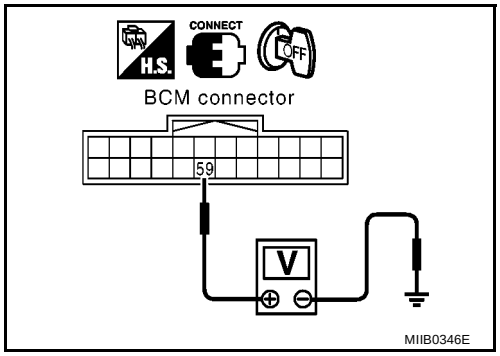
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M49 terminal 59 and ground.

Rear LH door is closed.

59 (L) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

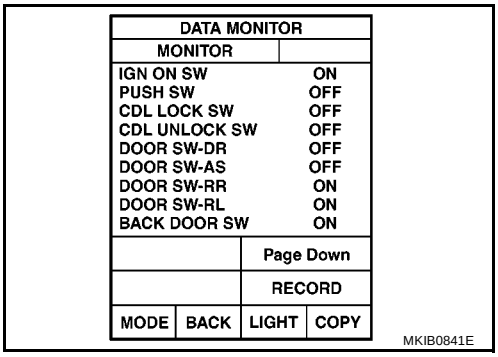
REAR RH SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT- II

Check door switch “DOOR SW-RR” in “DATA MONITOR” mode with CONSULT- II.

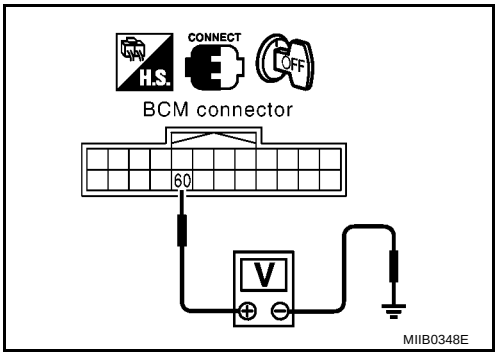
Monitor item	Condition	
DOOR SW-RR	OPEN	: ON
	CLOSE	:OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M49	60 (G)	Ground	OPEN	0
			CLOSE	Battery voltage



OK or NG

OK >> Rear door switch RH is OK.

NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and rear door switch RH connector.
3. Check continuity between BCM connector M49 terminal 60 and rear door switch RH connector B30 terminal 1.

60 (G) – 1 (G) : Continuity should exist.

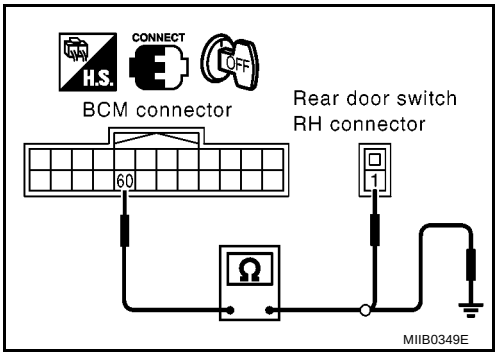
4. Check continuity between BCM connector M49 terminal 60 and ground.

60 (G) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

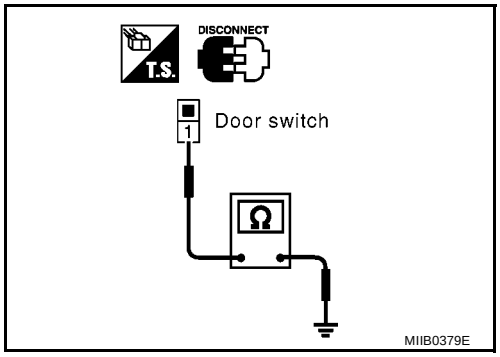
NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

Check continuity between door switch terminal 1 and body ground part of door switch.

Terminals		Condition	Continuity
1	Body ground part of door switch	Pushed	NO
		Released	YES



OK or NG

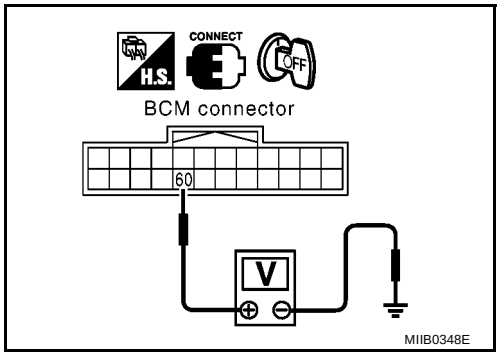
OK >> GO TO 4.
NG >> Replace door switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M49 terminal 60 and ground.

Rear RH door is closed.

60 (G) – Ground : Battery voltage



OK or NG

OK >> Check door switch ground condition.
NG >> Replace BCM.

External Back Door Release Switch Check

EIS00AQ8

1. CHECK EXTERNAL BACK DOOR RELEASE SWITCH INPUT SIGNAL

With CONSULT- II

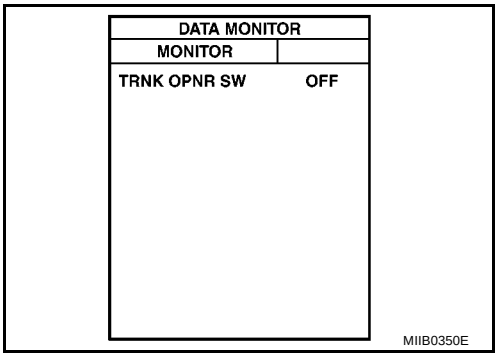
Check external back door release switch “TRNK OPNR SW” in “DATA MONITOR” mode with CONSULT- II.

External back door release switch is pushed

TRNK OPNR SW : ON

External back door release switch is released

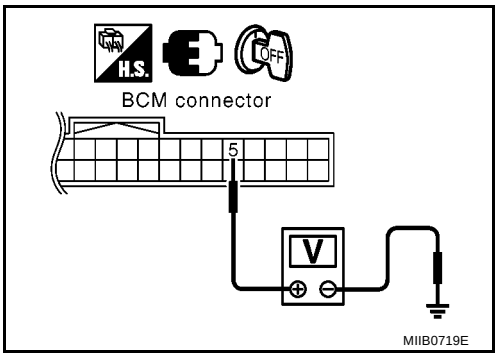
TRNK OPNR SW : OFF



Without CONSULT- II

Check voltage between BCM connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M48	5 (Y)	Ground	Pushed	0
			Released	5



OK or NG

OK >> External back door release switch is OK.

NG >> GO TO 2.

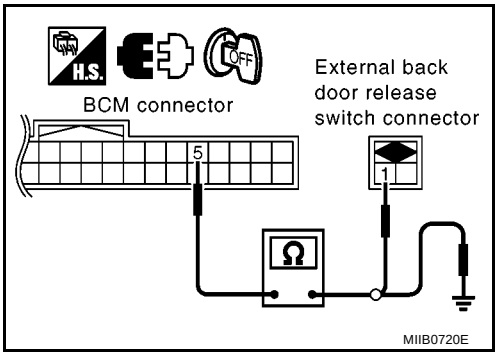
2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and external back door release switch connector.
3. Check continuity between BCM connector M48 terminal 5 and external back door release switch connector B52 terminal.

5 (Y) – 1 (Y) : Continuity should exist.

4. Check continuity between BCM connector M48 terminal 5 and ground.

5 (Y) – Ground : Continuity should not exist.



OK or NG

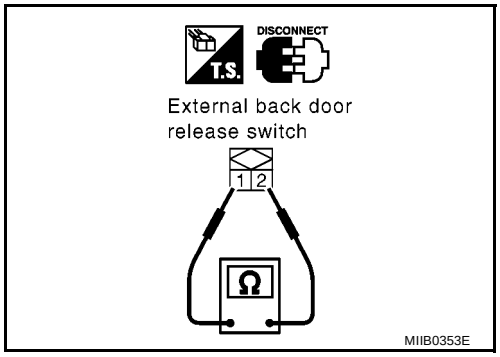
OK >> GO TO 3.

NG >> Repair or replace harness.

3. CHECK EXTERNAL BACK DOOR RELEASE SWITCH

Check continuity between external back door release switch terminal 1 and 2.

Terminals		Condition	Continuity
1	2	Pushed	YES
		Released	NO



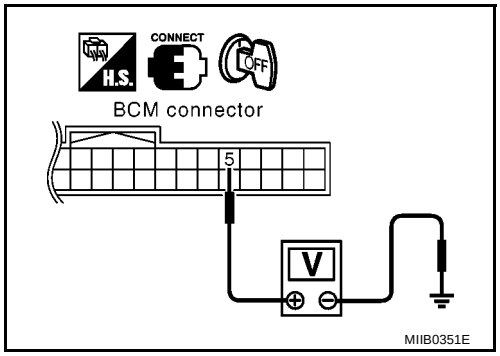
OK or NG

OK >> GO TO 4.
NG >> Replace external back door release switch.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M48 terminal 5 and ground.

5 (Y) – Ground : Approx. 5V



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Replace BCM.

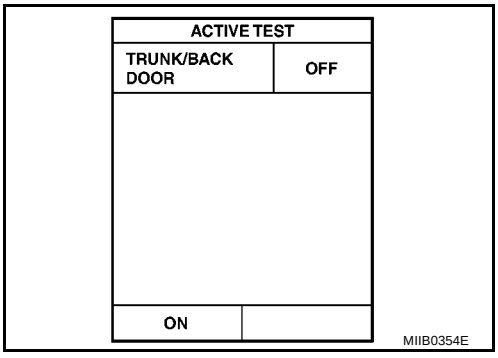
Back Door Release Actuator Check

EIS00AQ9

1. CHECK BCM OUTPUT SIGNAL

Check back door release output signal
Perform (“TRUNK/BACK DOOR”) in “ACTIVE TEST” mode with CONSULT-II.

When “ACTIVE TEST” is executed, does the back door open?



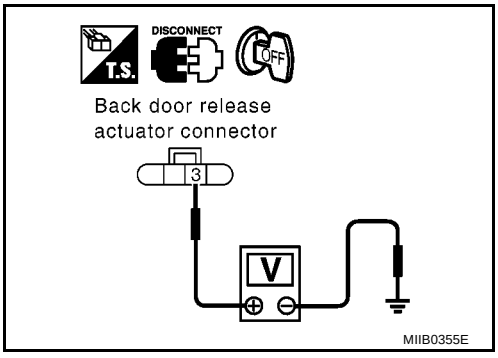
OK or NG

OK >> Back door release output is OK.
NG >> GO TO 2.

2. CHECK BACK DOOR RELEASE ACTUATOR

1. Turn ignition switch OFF.
2. Disconnect back door release actuator connector.
3. External back door release switch operate, check voltage between back door release actuator connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
B55	3 (OR)	Ground	Pushed	0 → Battery voltage → 0



OK or NG

OK >> GO TO 4.
NG >> GO TO 3.

3. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M50 terminal 68 and back door release actuator connector B55 terminal 3.

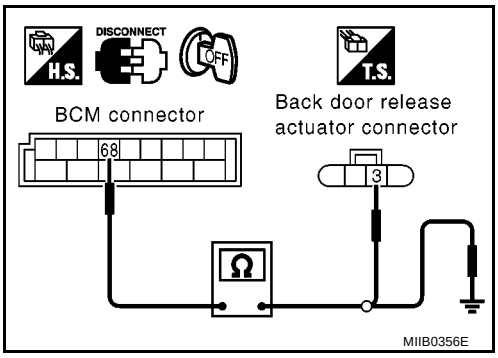
68 (OR) – 3 (OR) : Continuity should exist.

3. Check continuity between BCM connector M50 terminal 68 and ground.

68 (OR) – Ground : Continuity should not exist.

OK or NG

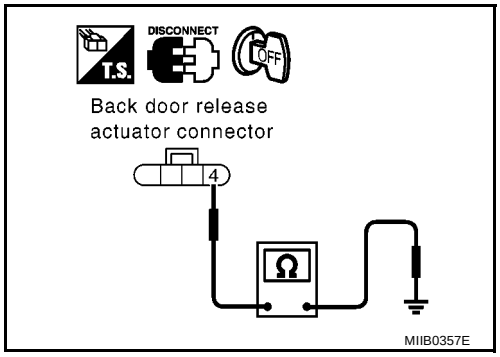
OK >> Replace BCM.
NG >> Repair or replace harness.



4. CHECK GROUND CIRCUIT

Check continuity between back door release actuator connector B55 terminal 4 and ground.

4 (B) – Ground : Continuity should exist.



OK or NG

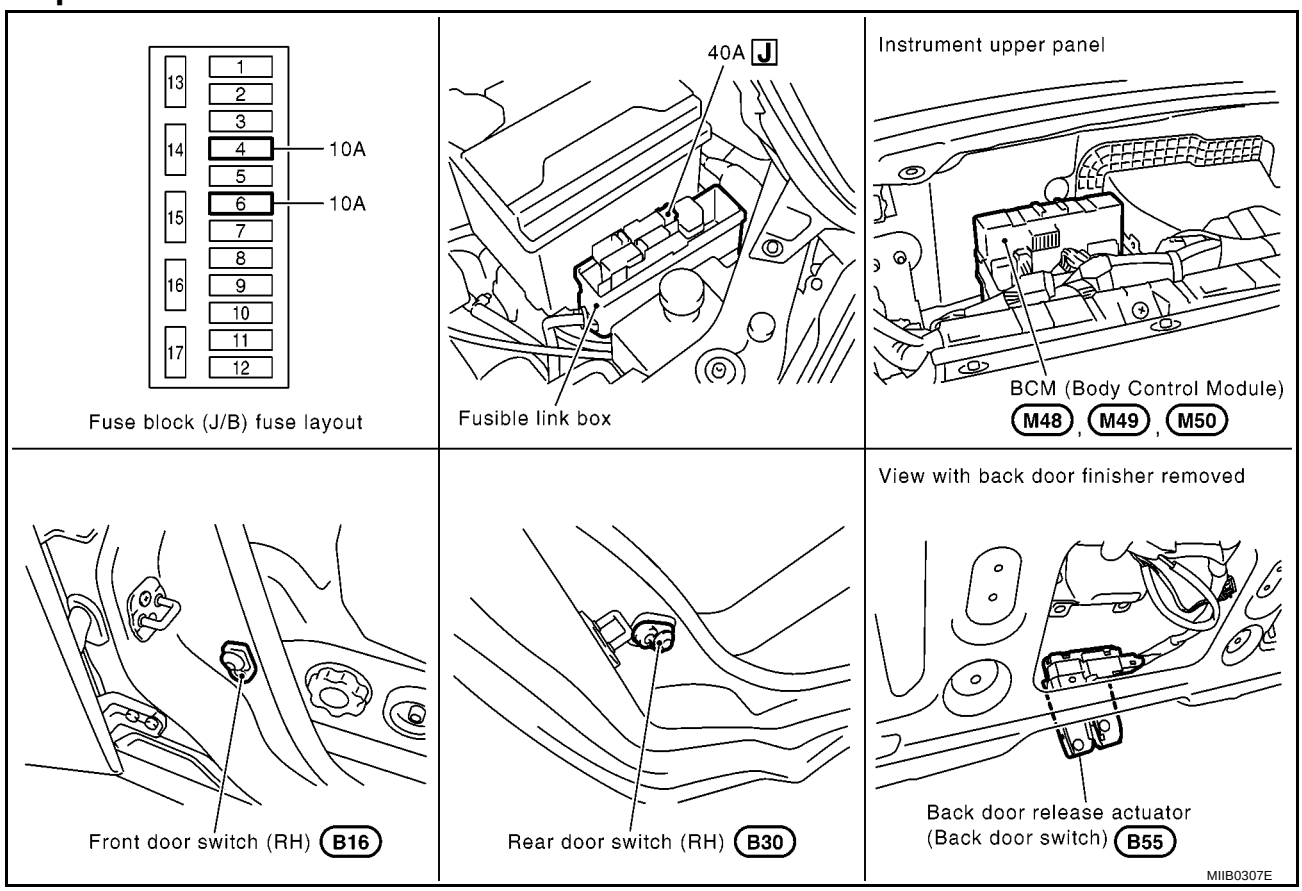
OK >> Replace back door release actuator.
NG >> Repair or replace harness.

MULTI-REMOTE CONTROL SYSTEM

PFP:28596

Component Parts and Harness Connector Location

EIS004Y9



System Description

EIS004YA

INPUTS

Power is supplied at all times

- to BCM terminals 74 and 79
- through 40A fusible link (letter **J** , located in the fusible link box).
- to key switch terminal 1
- through 10A fuse [No. 6, located in the fuse block (J/B)].

When the key switch is ON (Ignition key is inserted in ignition key cylinder), power is supplied

- to BCM terminal 3.
- through key switch terminal 2

When the ignition switch is ON or START, power is supplied

- to BCM terminal 24
- through 10A fuse [No. 4, located in the fuse block (J/B)].

Ground is supplied

- to BCM terminals 2 and 70
- through body grounds M19 and M20.

When the front door switch LH (LHD Models) or RH (RHD Models) is ON (door is open), ground supplied

- to BCM terminal 29
- through front door switch LH (LHD Models) or RH (RHD Models) terminal 1
- through front door switch LH (LHD Models) or RH (RHD Models) case ground.

When the front door switch RH (LHD Models) or LH (RHD Models) is ON (door is open), ground supplied

- to BCM terminal 30
- through front door switch RH (LHD Models) or LH (RHD Models) terminal 1
- through front door switch RH (LHD Models) or LH (RHD Models) case ground.

When the rear door switch LH is ON (door is open), ground is supplied

- to BCM terminal 59
- through rear door switch LH terminal 1
- through rear door switch LH case ground.

When the rear door switch RH is ON (door is open), ground is supplied

- to BCM terminal 60
- through rear door switch RH terminal 1
- through rear door switch RH case ground.

When the back door switch is ON (back door is open), ground is supplied

- to BCM terminal 10
- through back door switch terminals 1 and 2
- through body grounds B17, B23, B44 and B51.

Remote controller signal is inputted to BCM (The antenna of the system is combined with BCM).

OPERATE

The multi-remote control system controls operation of the

- power door lock
- answer back
- auto door lock

OPERATED PROCEDURE

Power Door Lock Operation

NORMAL MODE

BCM receives a LOCK/UNLOCK signal from remote controller.
Then BCM locks/unlocks all doors with input of LOCK/UNLOCK signal from remote controller.

ANTI HI-JACK MODE

BCM receives a LOCK signal from remote controller.

Then BCM locks all doors with input of LOCK signal from remote controller.
When an UNLOCK signal is sent from remote controller once, driver's door will be unlocked.
Then, if an UNLOCK signal is sent from remote controller again within 5 seconds, all door will be unlocked.

HOW TO CHANGE DOOR LOCK FUNCTION MODE

With CONSULT-II

Door lock function can be changed using “SECURITY DOOR LOCK SET” mode in “WORK SUPPORT” of “DOOR LOCK”.
Refer to BL-46, "WORK SUPPORT" .

Without CONSULT-II

When LOCK and UNLOCK signals are sent from the remote controller for more than 5 seconds at the same time, the lock function mode is changed.

Answer Back

When the doors are locked or unlocked by remote controller, supply power to hazard warning lamp flashes as follows

- LOCK operation: Flash once
- UNLOCK operation: Flash twice

Answer back mode can be changed using “HAZARD LAMP SET” mode in “WORK SUPPORT” of “FLUSHER”.
Refer to LT-145, "WORK SUPPORT" .

Auto Door Lock Operation

Auto door lock function signal is sent for operation when any of the following signals are not sent within 2 minutes after the unlock signal is sent from remote controller:

- when door switch is turned on for door open.
- when key switch is turned on.
- when the lock signal is sent from the remote controller.

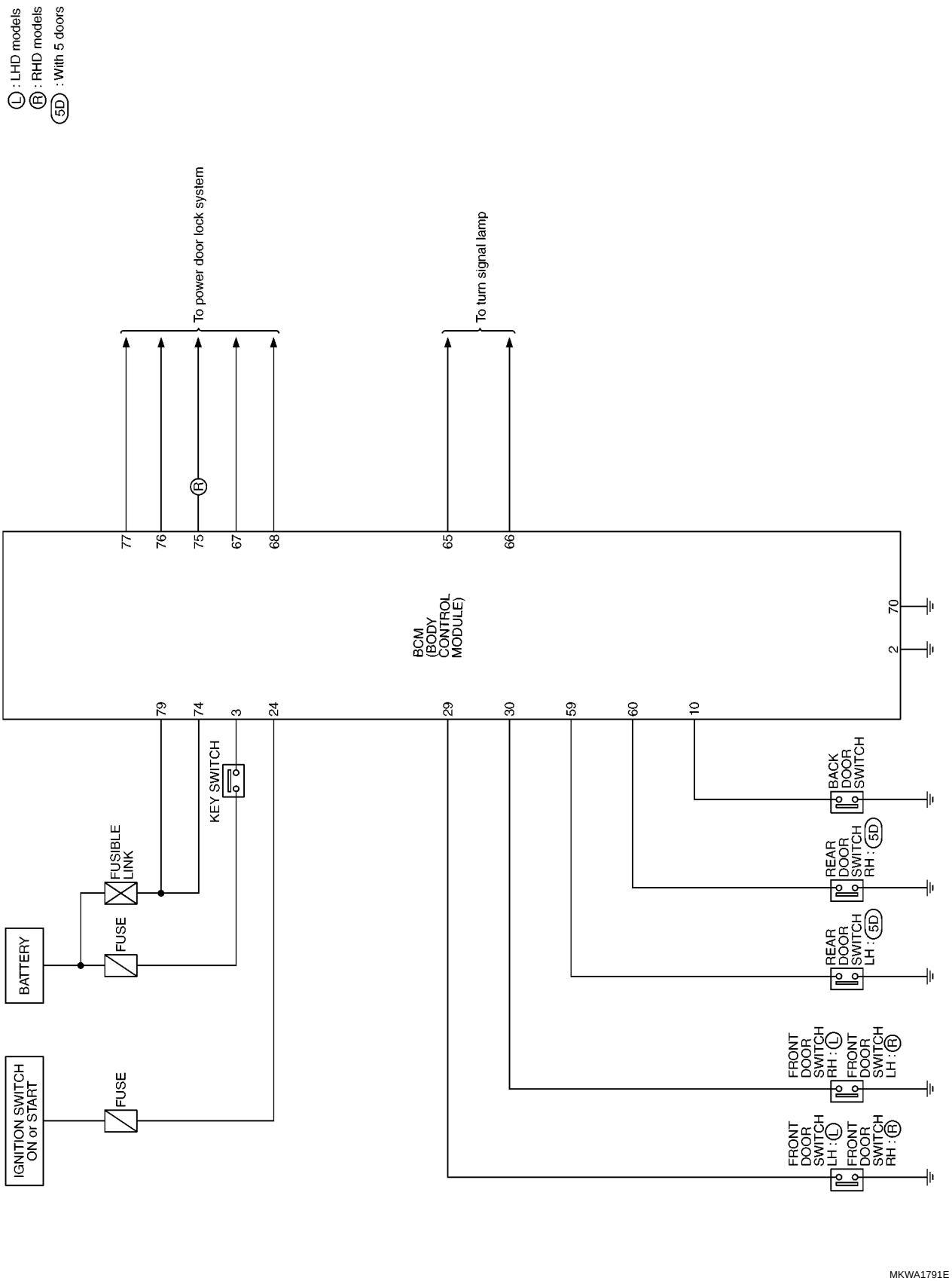
Auto door lock mode can be changed using “AUTO LOCK SET” mode in “WORK SUPPORT” of “DOOR LOCK”.
Refer to BL-46, "WORK SUPPORT" .

Remote Controller ID Code Entry

A maximum of four remote controller can be entered.
Dedicated remote controller ID registration procedure is not required.
Remote controller ID registration must be completed in conjunction with immobilizer transponder ID registration.

Schematic

EIS004YB

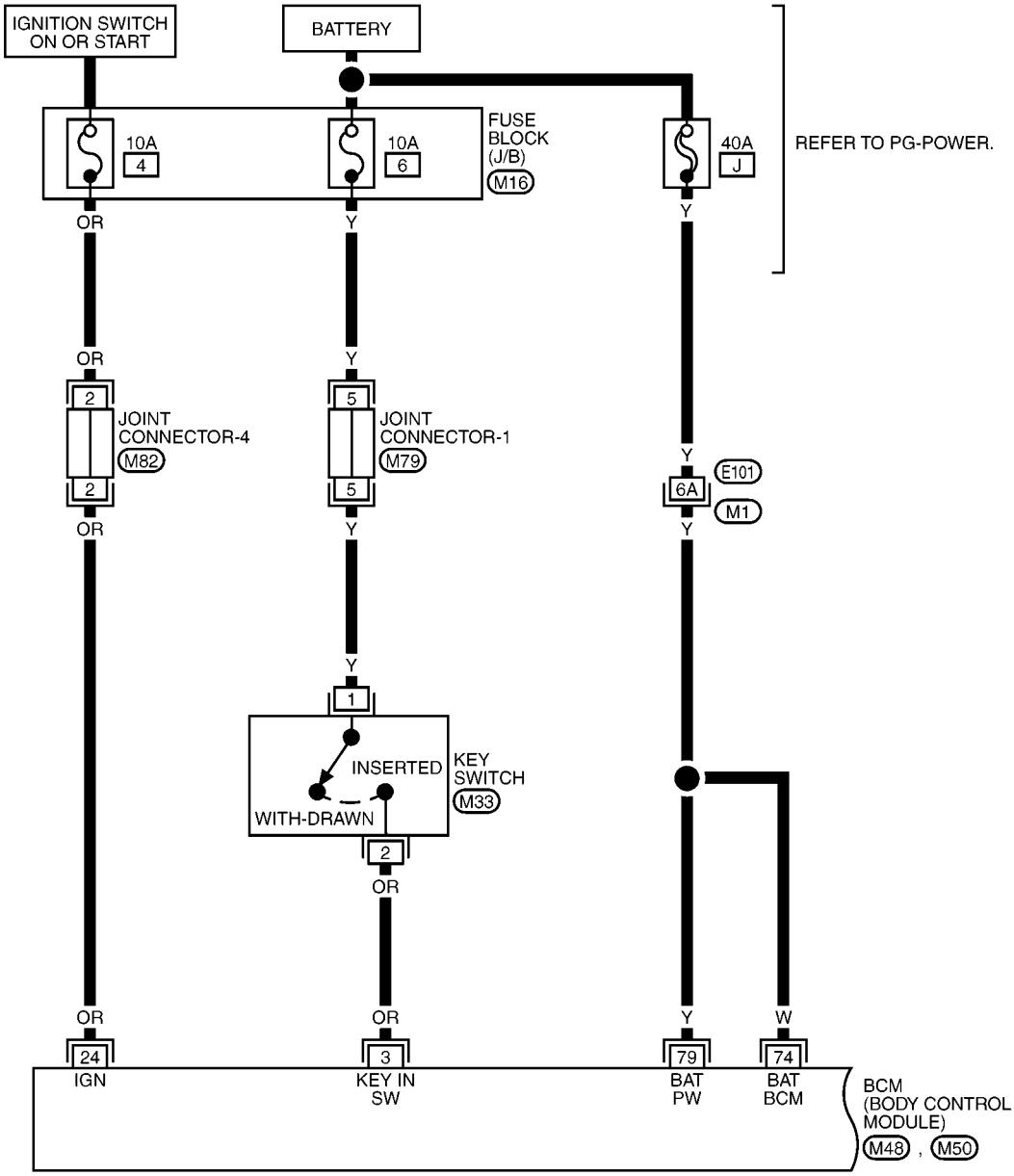


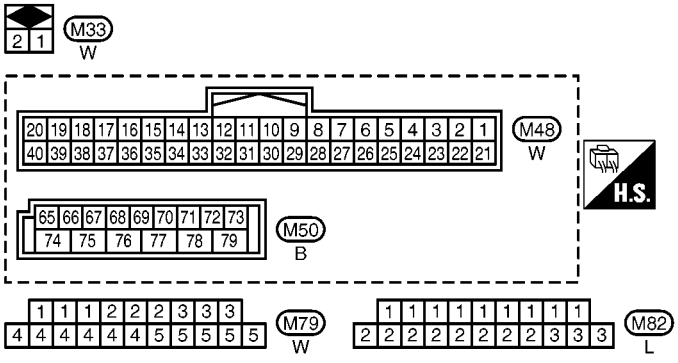
MKWA1791E

Wiring Diagram — MULTI —

EIS004YC

BL-MULTI-01

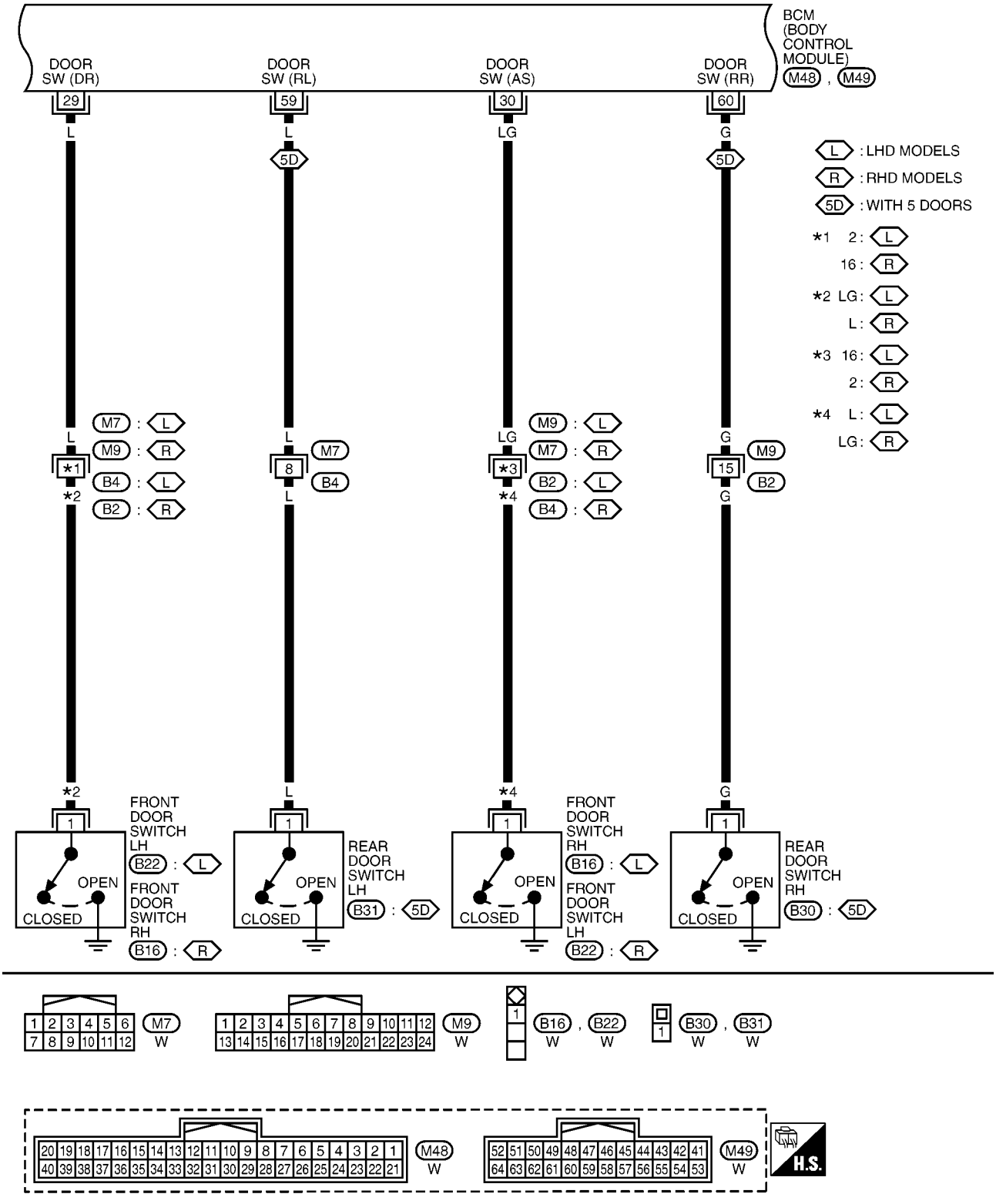




REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)

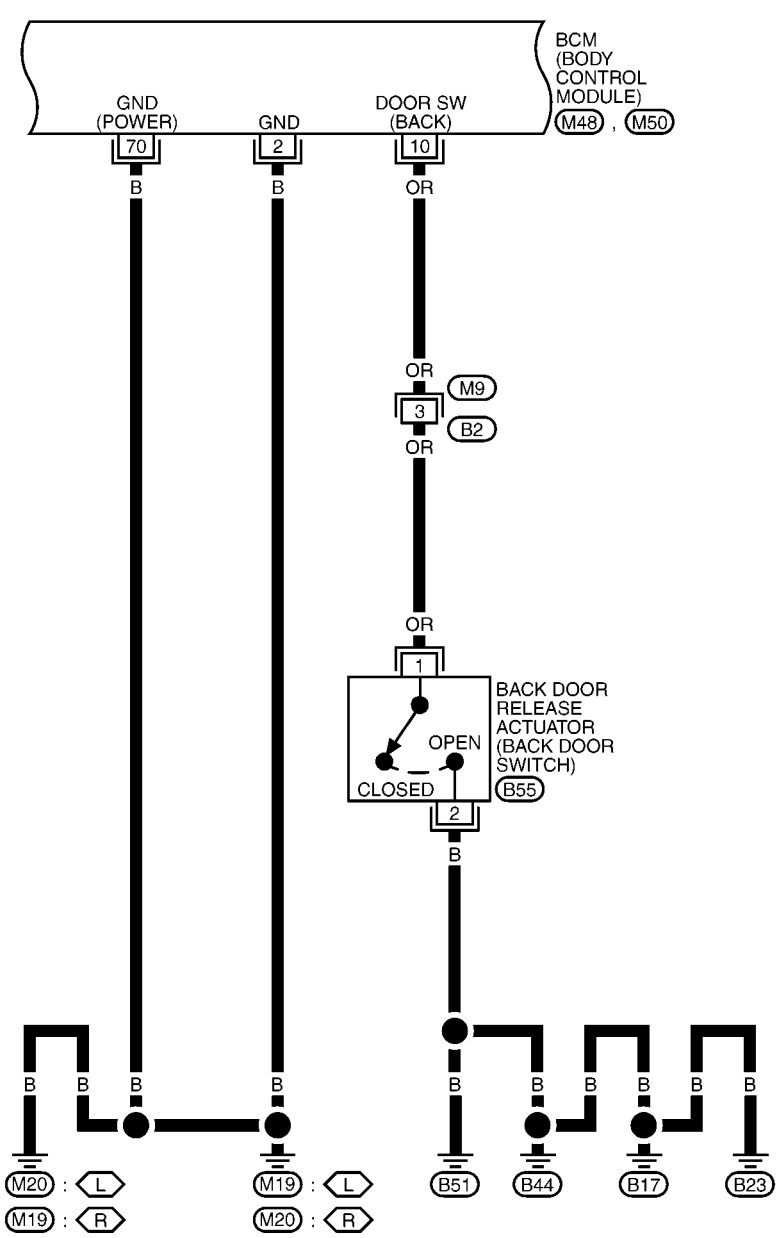
MKWA1792E

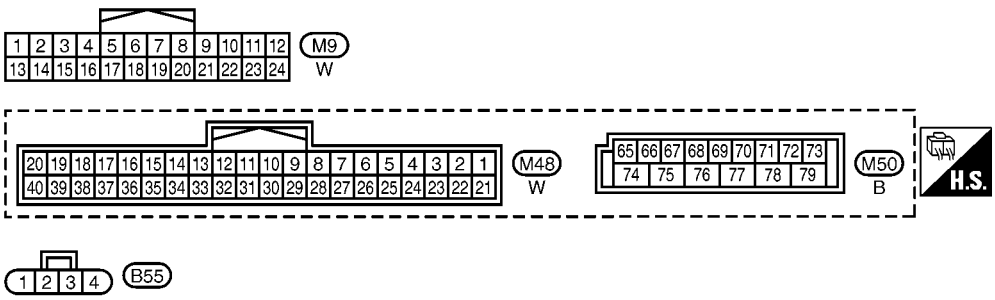
BL-MULTI-02



MKWA0890E

BL-MULTI-03

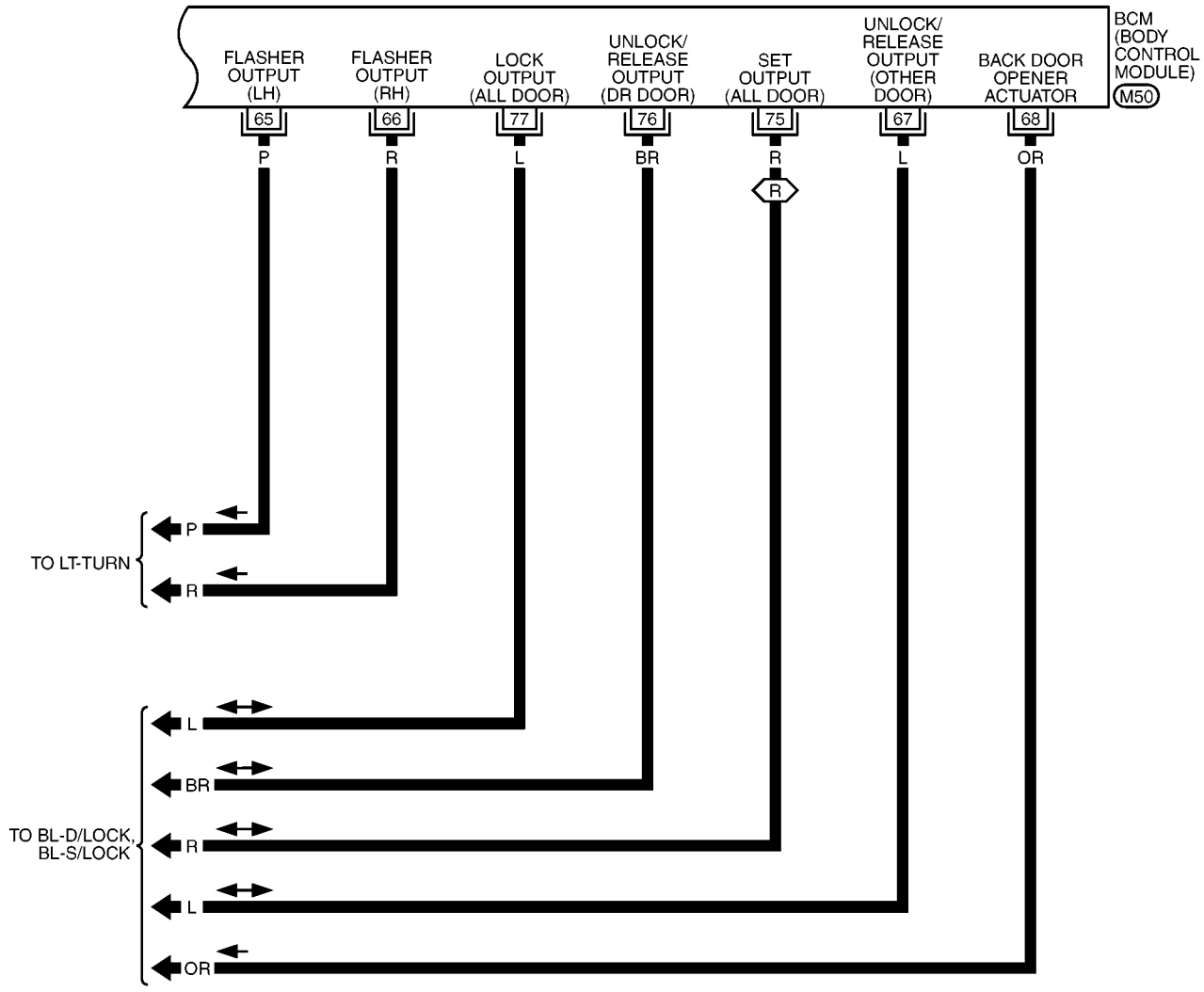


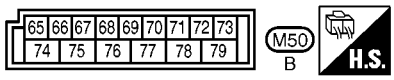


MKWA0891E

BL-MULTI-04

R : RHD MODELS

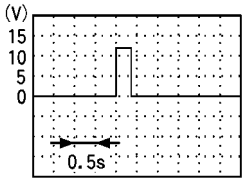
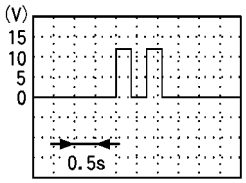
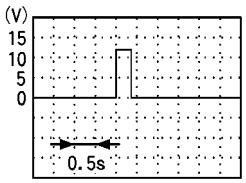
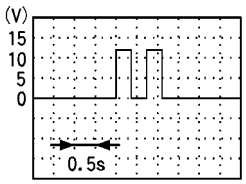




MKWA0892E

Terminal and Reference Value for BCM

EIS004YD

TER-MINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
2	B	Ground	—	0
3	OR	Key switch	Key is removed from IGN key cylinder (OFF) → Key is inserted in IGN key cylinder (ON)	0 → Battery voltage
10	OR	Back door switch	Back door open (ON) → Back door close (OFF)	0 → Battery voltage
19	R	CAN-H	—	—
24	OR	IGN power supply	Ignition switch is in ON or START position	Battery voltage
29	L	Front door switch LH (LHD models) Front door switch RH (RHD models)	Door open (ON) → Door close (OFF)	0 → Battery voltage
30	LG	Front door switch RH (LHD models) Front door switch LH (RHD models)	Door open (ON) → Door close (OFF)	0 → Battery voltage
39	W	CAN-L	—	—
59	L	Rear door switch LH	Door open (ON) → Door close (OFF)	0 → Battery voltage
60	G	Rear door switch RH	Door open (ON) → Door close (OFF)	0 → Battery voltage
65	P	Answer back (Turn signal lamp LH)	When door lock operated using remote controller*1	 PIIA2486J
			When door unlock operated using remote controller*1	 PIIA2487J
66	R	Answer back (Turn signal lamp RH)	When door lock operated using remote controller*1	 PIIA2486J
			When door unlock operated using remote controller*1	 PIIA2487J
67	L	Door lock actuator unlock (ALL Door) (Except driver side)	Door lock/unlock switch UNLOCK operation	0 → Battery voltage

TER-MINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
68	OR	Back door opener actuator	Power window main switch (Back door release switch) OPEN operation	Battery voltage → 0
70	B	Ground	—	0
74	W	BAT power supply (fusible link) (BCM)	—	Battery voltage
75*2	R	Super lock set output (All door)	Super lock operation (Set)	0 → Battery voltage
76	BR	Door lock actuator unlock (Driver side)	Door lock/unlock switch Unlock operation	0 → Battery voltage
77	L	Door lock actuator lock (ALL Door)	Door lock/unlock switch LOCK operation	0 → Battery voltage
79	Y	BAT power supply (fusible link) (Power window)	—	Battery voltage

*1 : In the state that answer back operates

*2 : Only the model equipped with super lock system (RHD Models)

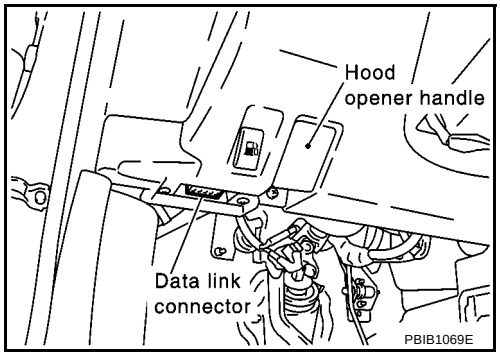
CONSULT- II Inspection Procedure

EIS004YE

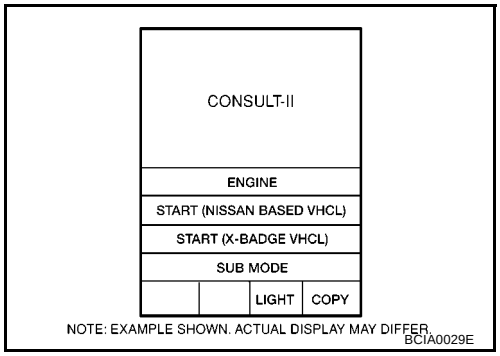
CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

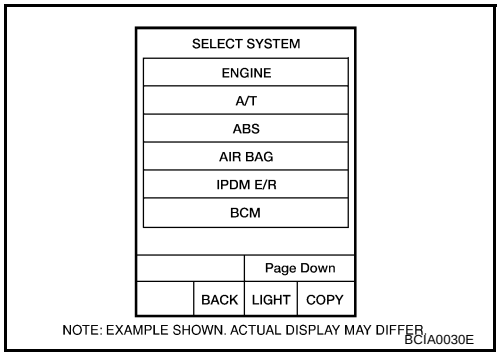
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector.



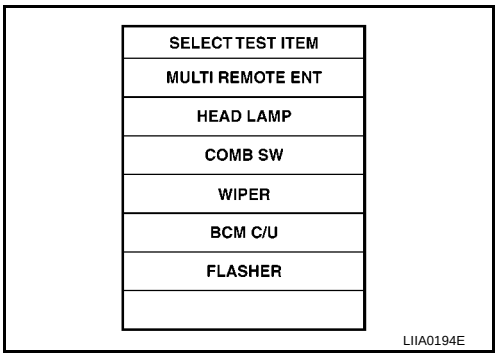
3. Turn ignition switch “ON”.
4. Touch “START(NISSAN BASED VHCL)”.



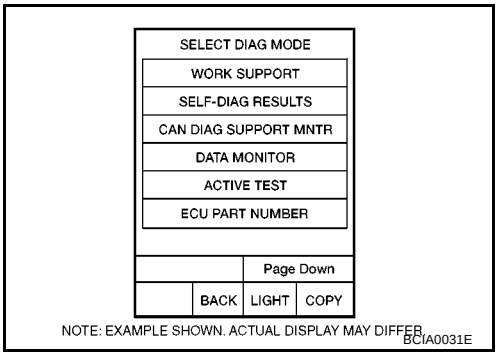
5. Touch “BCM”.
   If “BCM” is not indicated, Refer to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch “MULTI REMOTE ENT”.



7. Select diagnosis mode.
“DATA MONITOR” is available.



CONSULT- II Application Items

EIS004YF

DATA MONITOR

Monitored Item	Description
MEMORY 1	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 2	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 3	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 4	Indicates [ON/OFF] condition of remote controller ID code registration.

Work Flow

EIS0055G

1. Check the trouble symptom and customer's requests.
2. Understand outline of system. Refer to BL-132, "System Description" .
3. Confirm that power door lock system operates normally.
Refer to BL-15, "POWER DOOR LOCK SYSTEM" .
4. Refer to trouble diagnosis chart by symptom, repair or replace any malfunctioning parts.
5. INSPECTION END

Trouble Diagnosis Chart by Symptom

EIS004YG

First perform the “SELF-DIAG RESULTS” in “BCM” with CONSULT-II, when perform the each trouble diagnosis. Refer to BCS-31, "CAN Communication Inspection With CONSULT-II (Self-Diagnosis)" .

NOTE:

- Always check “Work Flow” before troubleshooting. Refer to BL-141, "Work Flow" .
- Always check remote controller battery before replacing remote controller.

Symptom	Diagnoses/service procedure	Reference page
All function of multi-remote control system do not operate.	1. Remote controller check	BL-143
	2. Replace remote controller. **NOTE:** If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunction.	BL-133
	3. Replace BCM.	BCS-31
Door lock or unlock does not function with remote controller. (Power door lock system is “OK”)	1. Remote controller check	BL-143
	2. Key switch check	BL-148
	3. Replace remote controller. **NOTE:** If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunction.	BL-133
	4. Replace BCM.	BCS-31
Answer back does not activate properly when pressing lock or unlock button of remote controller.	1. Check answer back mode.* *: Answer back mode can be changed. First check the hazard reminder setting.	LT-145
	2. Hazard reminder check	BL-150
	3. Replace BCM.	BCS-31
Auto door lock operation does not activate properly. (All other remote keyless entry system function is “OK”.)	1. Check auto door lock operation mode.* *: Auto door lock operation can be changed. First check the auto door lock operation setting.	BL-46
	2. Door switch check	BL-143
	3. Replace BCM.	BCS-31

Remote controller Check

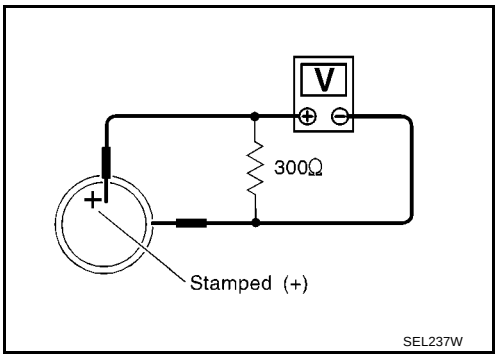
EIS004YH

1. CHECK REMOTE CONTROLLER BATTERY

Remove battery and measure voltage across battery positive and negative terminals, (+) and (–).

Battery voltage : 2.5V – 3.0V

NOTE:
Remote controller does not function if battery is not set correctly.



OK or NG

OK >> GO TO 2
NG >> Replace battery. Refer to BL-151, "Remote Controller Battery Replacement" .

2. CHECK REMOTE CONTROLLER FUNCTION

With CONSULT-II
Check remote controller function.

Remote controller function	Check item
Pushing LOCK button	All of doors are locked
Pushing UNLOCK button	All of doors are unlocked

OK or NG

OK >> Remote controller is OK.
NG >> Replace remote controller.

Door Switch Check

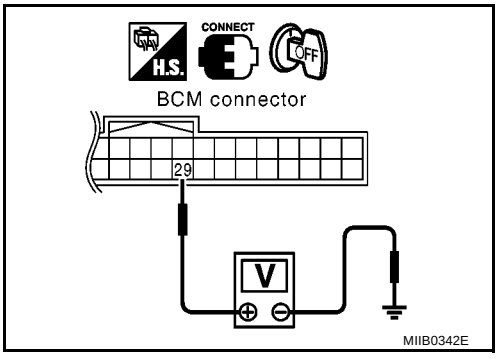
EIS0054Y

DOOR SWITCH DRIVER SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M48 terminal 29 and ground.

Terminal		Driver door condition	Voltage (V) Approx.
(+)	(–)		
29 (L)	Ground	Closed	5
		Open	0



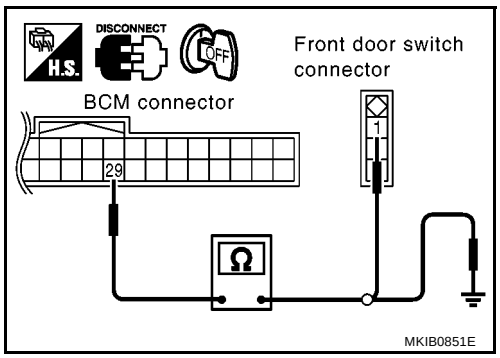
OK or NG

OK >> Door switch circuit is OK.
NG >> GO TO 2.

2. CHECK DOOR SWITCH HARNESS

1. Check continuity between BCM connector M48 terminal 29 and driver door switch connector B22(LHD Models) or B16 (RHD Models) terminal 1.

Terminal		Continuity
LHD Models	29 (L) - 1 (LG)	Yes
RHD Models	29 (L) - 1 (L)	



2. Check continuity between BCM connector M48 terminal 29 and ground.

29 (L) – Ground : Continuity should not exist.

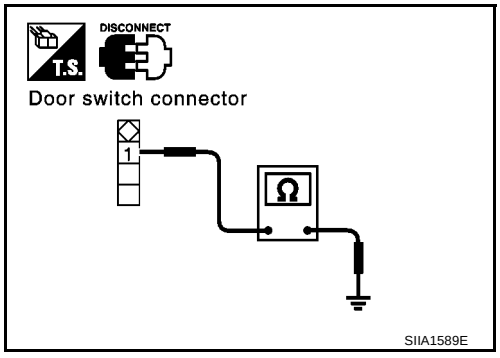
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK DOOR SWITCH

Check continuity between driver door switch terminal 1 and ground part of door switch.

Terminal	Driver door switch condition	Continuity
1 - Ground part of door switch	Pushed	No
	Released	Yes



OK or NG

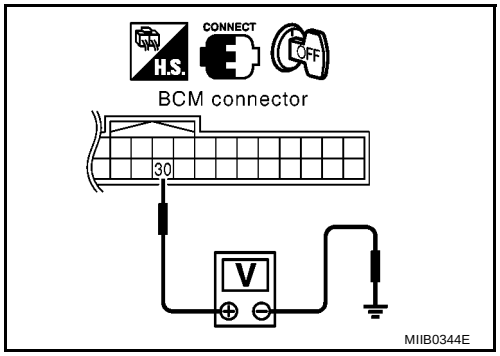
OK >> Check driver door switch ground condition.
NG >> Replace driver door switch.

DOOR SWITCH PASSENGER SIDE

1. CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M48 terminal 30 and ground.

Terminal		Passenger door condition	Voltage (V) Approx.
(+)	(–)		
30 (LG)	Ground	Closed	5
		Open	0



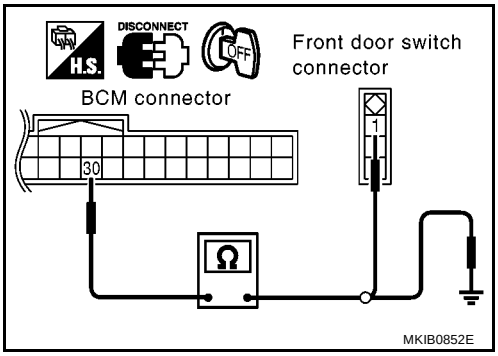
OK or NG

OK >> Door switch circuit is OK.
NG >> GO TO 2

2. CHECK DOOR SWITCH HARNESS

1. Check continuity between BCM connector M48 terminal 30 and passenger door switch connector B16(LHD Models) or B22 (RHD Models) terminal 1.

Terminal		Continuity
LHD Models	30 (LG) - 1 (L)	Yes
RHD Models	30 (LG) - 1 (LG)	



2. Check continuity between BCM connector M48 terminal 30 and ground.

30 (LG) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness.

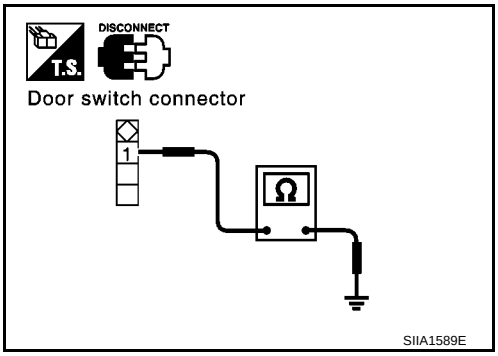
3. CHECK DOOR SWITCH

Check continuity between passenger door switch terminal 1 and ground part of door switch.

Terminal	Passenger door switch condition	Continuity
1 - Ground part of door switch	Pushed	No
	Released	Yes

OK or NG

OK >> Check passenger door switch ground condition.
NG >> Replace passenger door switch.



DOOR SWITCH REAR LH

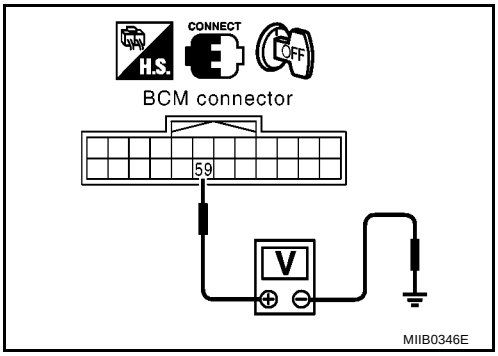
1. CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M49 terminal 59 and ground.

Terminal		Rear door LH condition	Voltage (V) Approx.
(+)	(–)		
59 (L)	Ground	Closed	5
		Open	0

OK or NG

OK >> Door switch circuit is OK.
NG >> GO TO 2



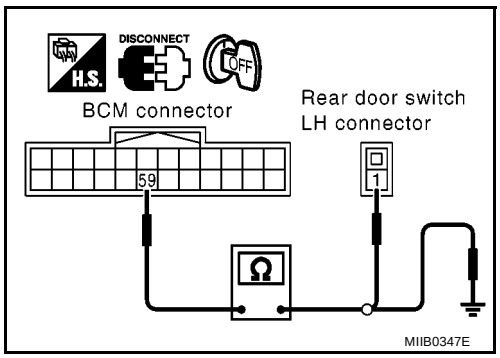
2. CHECK DOOR SWITCH HARNESS

1. Check continuity between BCM connector M49 terminal 59 and rear door switch LH connector B31 terminal 1.

   59 (L) – 1 (L) : Continuity should exist.

2. Check continuity between BCM connector M49 terminal 59 and ground

   59 (L) – Ground : Continuity should not exist.



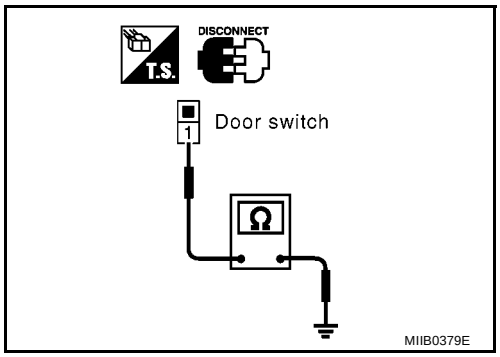
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK DOOR SWITCH

Check continuity between rear door switch LH terminal 1 and ground part of door switch.

Terminal	Rear door switch LH condition	Continuity
1 - Ground part of door switch	Pushed	No
	Released	Yes



OK or NG

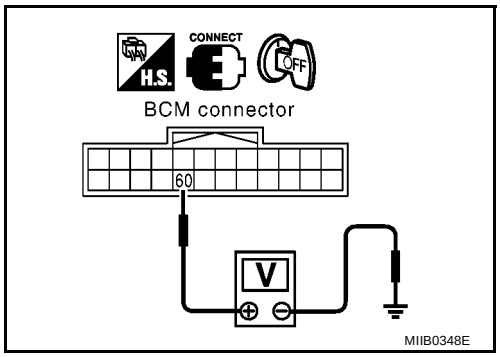
OK >> Check rear door switch LH ground condition.
NG >> Replace rear door switch LH.

DOOR SWITCH REAR RH

1. CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M49 terminal 60 and ground.

Terminal		Rear door RH condition	Voltage (V) Approx.
(+)	(–)		
60 (G)	Ground	Closed	5
		Open	0



OK or NG

OK >> Door switch circuit is OK.
NG >> GO TO 2

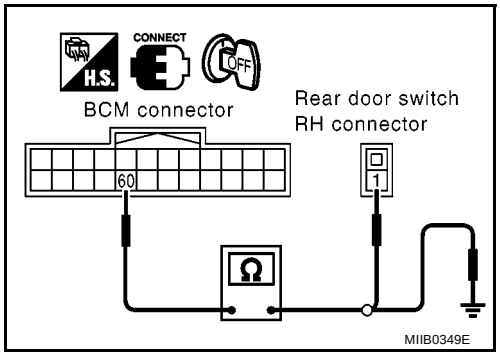
2. CHECK DOOR SWITCH HARNESS

1. Check continuity between BCM connector M49 terminal 60 and rear door switch LH connector B31 terminal 1.

   60 (G) – 1 (G) : Continuity should exist.

2. Check continuity between BCM connector M49 terminal 60 and ground

   60 (G) – Ground : Continuity should not exist.



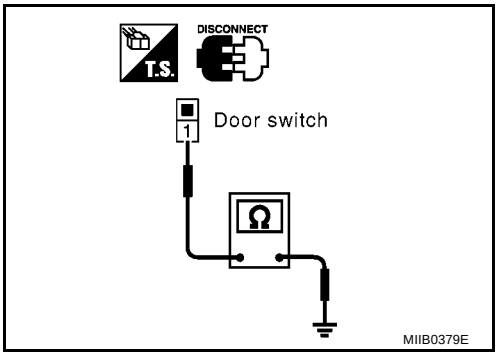
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK DOOR SWITCH

Check continuity between rear door switch RH terminal 1 and ground part of door switch.

Terminal	Rear door switch RH condition	Continuity
1 - Ground part of door switch	Pushed	No
	Released	Yes



OK or NG

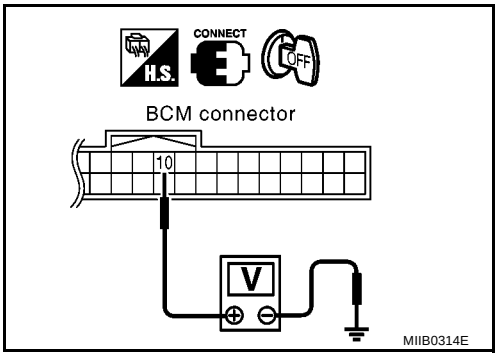
OK >> Check rear door switch RH ground condition.
NG >> Replace rear door switch RH.

BACK DOOR SWITCH

1. CHECK BACK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check voltage between BCM connector M48 terminal 10 and ground.

Terminal		Back door condition	Voltage (V) Approx.
(+)	(–)		
10 (OR)	Ground	Closed	5
		Open	0



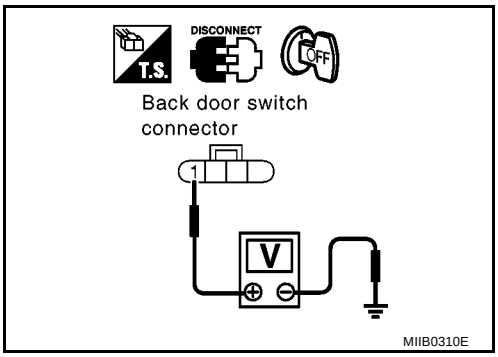
OK or NG

OK >> Back door switch circuit is OK.
NG >> GO TO 2

2. CHECK BACK DOOR SWITCH HARNESS

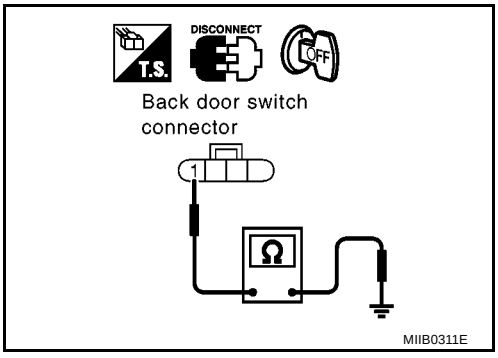
1. Disconnect back door switch connector.
2. Check voltage between back door switch connector B55 terminal 1 and ground. (Check harness for open.)

1 (OR) – Ground : Battery voltage



3. Disconnect BCM connector.
4. Check continuity between back door switch connector B55 terminal 1 and ground. (Check harness for short.)

1 (OR) – Ground : Continuity should not exist.



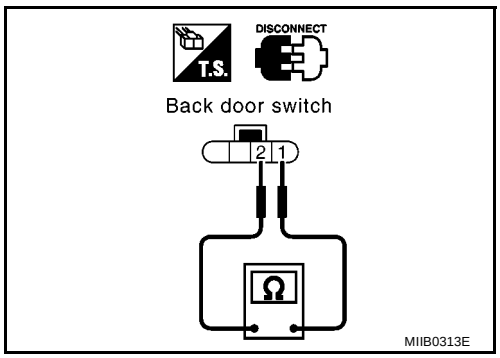
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK BACK DOOR SWITCH

Check continuity between back door switch terminal 1 and 2.

Terminal	Rear door condition	Continuity
1 - 2	Closed	No
	Opened	Yes



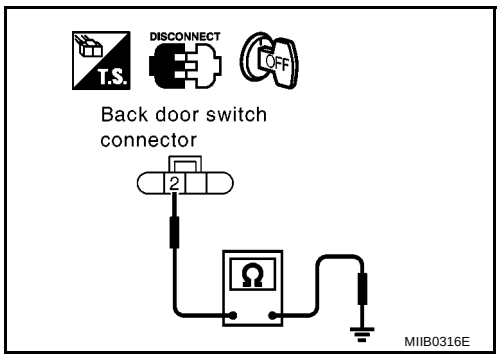
OK or NG

OK >> GO TO 4.
NG >> Replace back door release actuator (back door switch).

4. CHECK BACK DOOR SWITCH GROUND HARNESS

Check continuity between back door switch connector B55 terminal 2 and ground.

2 (B) – Ground : Continuity should not exist.



OK or NG

OK >> Check harness connection.
NG >> Replace back door switch.

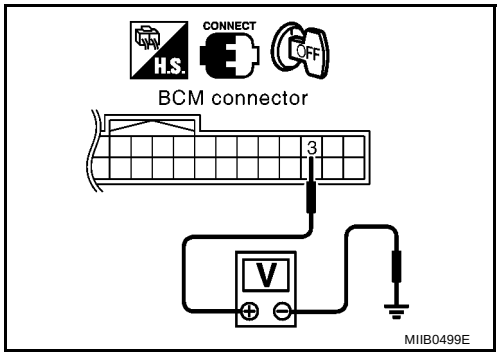
Key Switch Check

EIS0054Z

1. CHECK KEY SWITCH INPUT SIGNAL

Check voltage between BCM connector M48 terminal 3 and ground.

Terminals		Key switch condition	Voltage (V) Approx.
(+)	(–)		
3 (OR)	Ground	Key is inserted in IGN key cylinder (key switch is “ON”.)	Battery voltage
		Key is removed from IGN key cylinder (Key switch is “OFF”.)	0



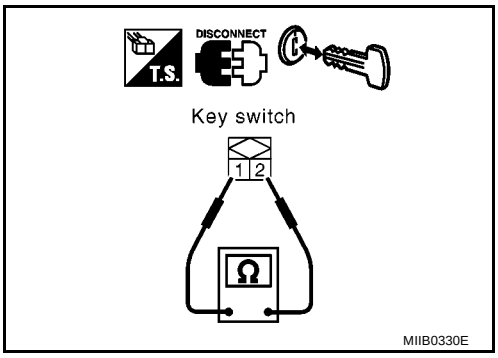
OK or NG

OK >> Key switch circuit is OK.
NG >> GO TO 2

2. CHECK KEY SWITCH (INSERT)

1. Disconnect key switch connector.
2. Check continuity between key switch terminals 1 and 2.

Terminals	Key switch condition	Continuity
1 – 2	Key is inserted in IGN key cylinder (Key switch is “ON”.)	Yes
	Key is removed from IGN key cylinder (Key switch is “OFF”.)	No



OK or NG

OK >> Check the following.
- 10A fuse [No. 6, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between BCM and key switch

NG >> Replace key switch.

Hazard Reminder Check

EIS004YL

1. CHECK HAZARD WARNING LAMP

Check if hazard warning lamp flashes with hazard switch.

Does hazard warning lamp operate?

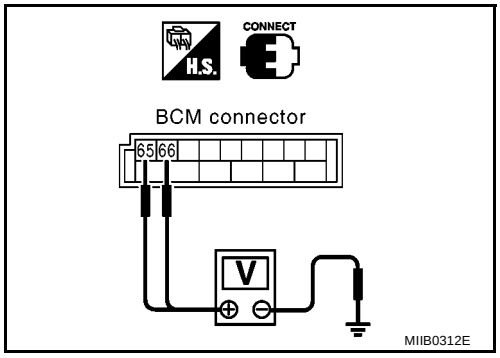
Yes >> GO TO 2

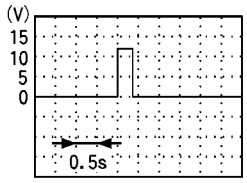
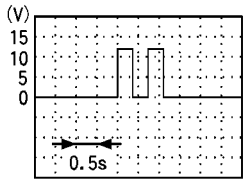
No >> Check hazard warning lamp circuit. Refer to LT-121, "TURN SIGNAL AND HAZARD WARNING LAMPS" .

2. CHECK HAZARD REMINDER OPERATION

Check the following at when push the remote controller switch.

Check voltage between smart entrance control unit harness connector M43 terminal 65, 66 and ground.



Remote controller	Voltage (V) Approx.
Pushing LOCK button	 PIIA2486J
Pushing UNLOCK button	 PIIA2487J

OK or NG

OK >> Check harness for open between BCM and hazard switch.

NG >> Check harness for short between BCM and hazard switch. If check result is “OK”, replace BCM. If check result is “NG”, repair or replace harness.

Remote Controller Battery Replacement

EIS004YN

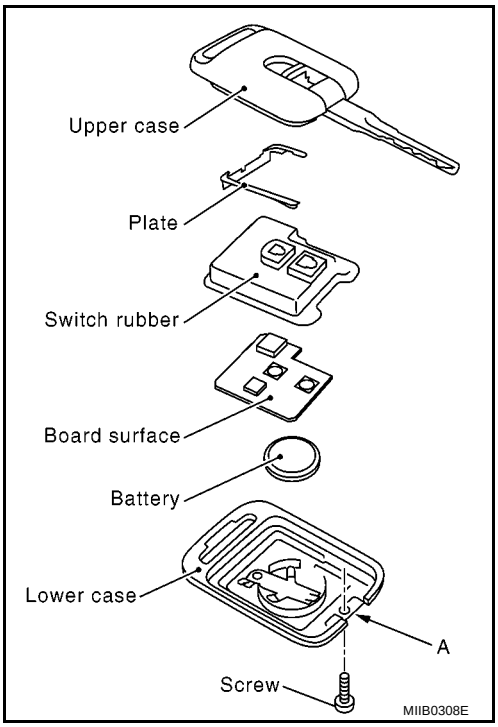
1. Remove installation screw on the rear of remote controller.
2. Place the key with the lower case facing up. Set a screwdriver wrapped with tape into section A of the lower case and separate the lower case from the upper case.
3. When replacing the circuit board assembly, remove circuit board assembly from the upper case.
   (Circuit board assembly: Switch rubber + Board surface)

   CAUTION:
   Be careful not to touch the printed circuits directly.
4. When replacing the battery
   Remove battery from the lower case and replace it.

   Battery replacement : Coin-type lithium battery (CR1620)

   CAUTION:
   When replacing battery, be sure to keep dirt, grease and other foreign materials off the electrode contact area.
5. After replacement, fit the lower and upper cases together, part and tighten with the screw.

   CAUTION:
   After replacing the battery, be sure to check that door locking operates normally using the remote controller.

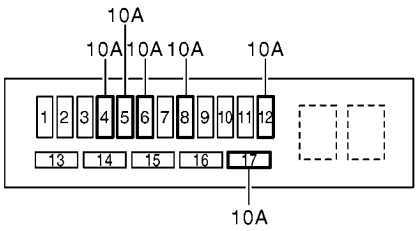


INTELLIGENT KEY SYSTEM

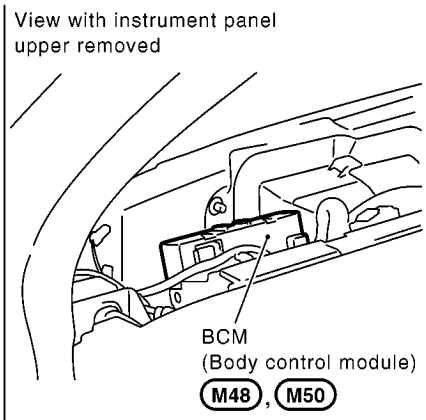
PFP:285e2

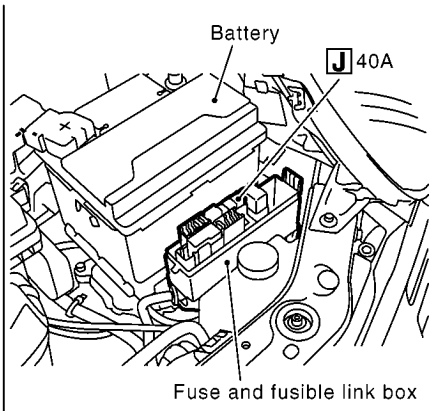
Component Parts and Harness Connector Location

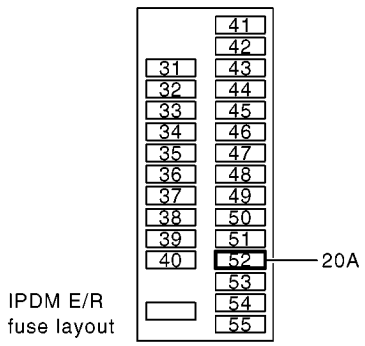
EIS00563

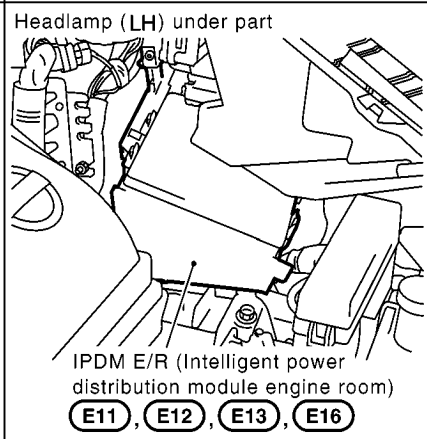


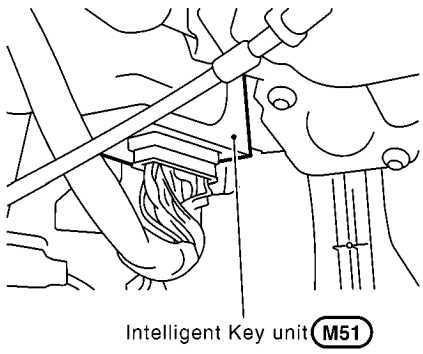
Fuse block (J/B) fuse layout

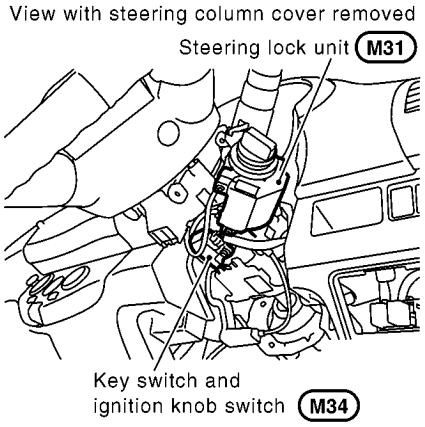


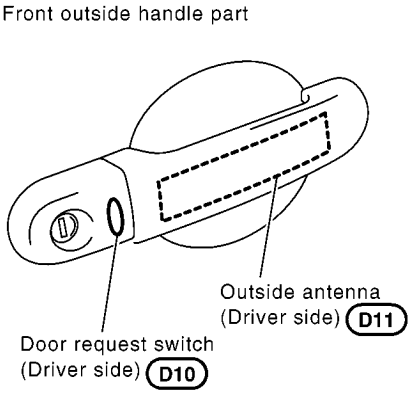


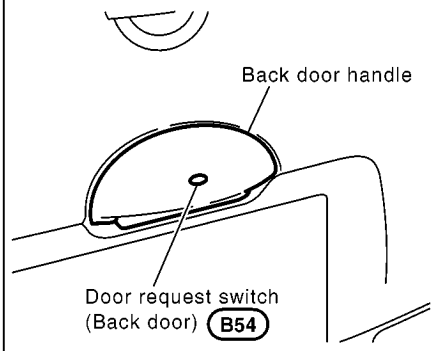


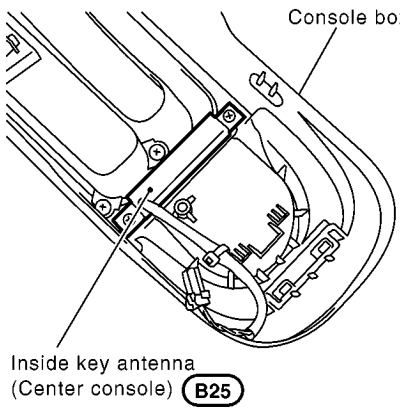


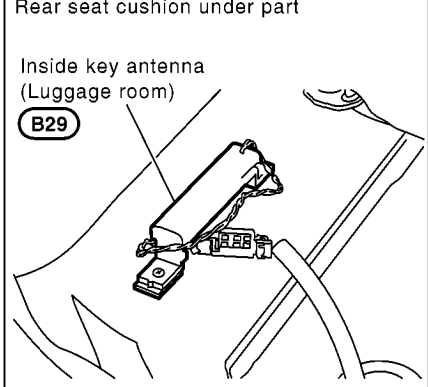


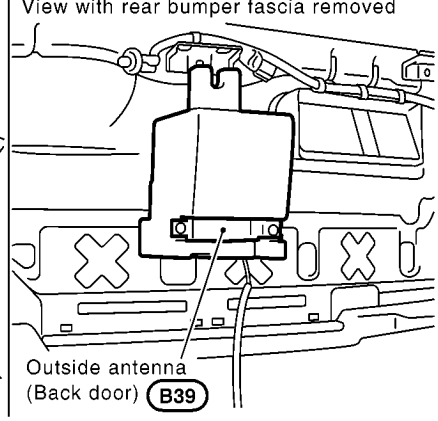




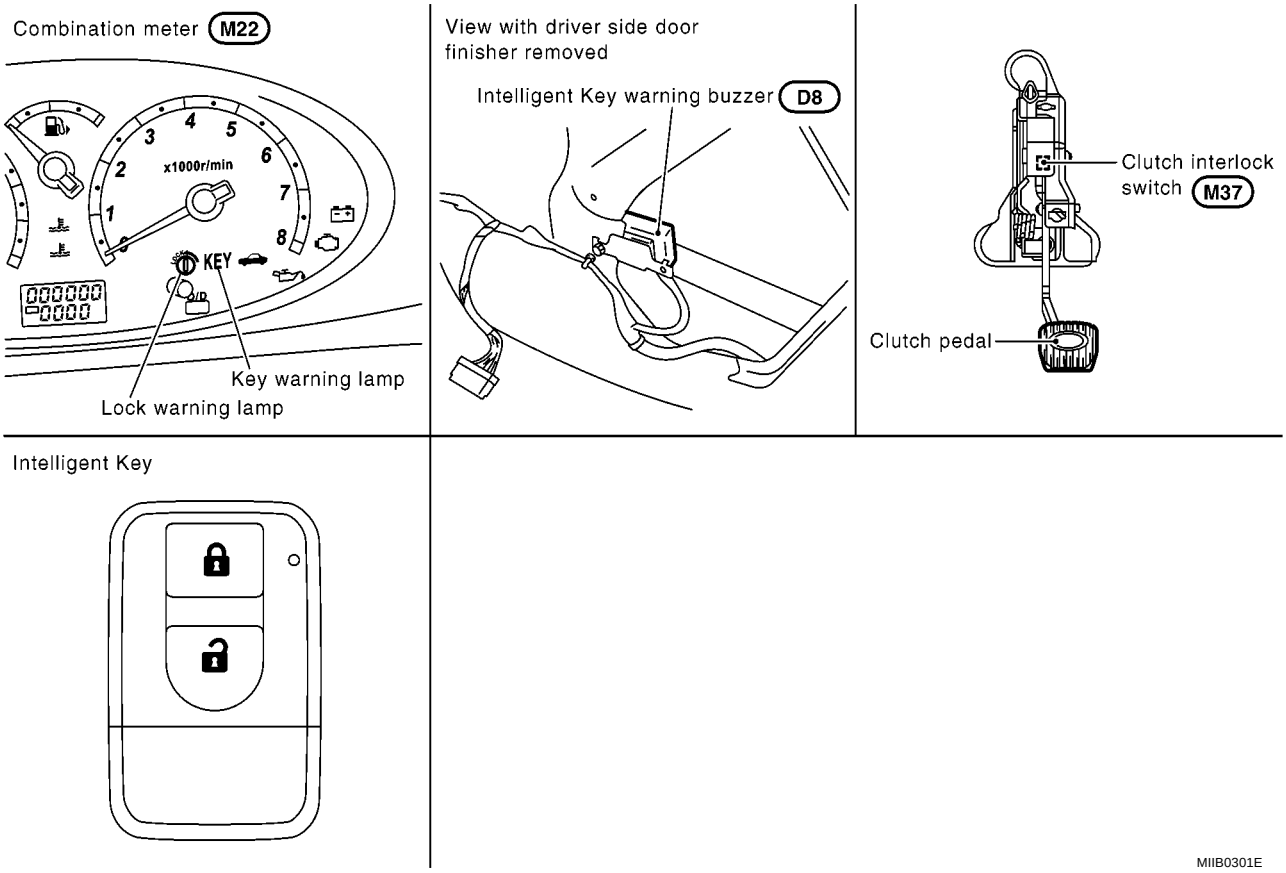








MIIB0723E



MIIB0301E

System Description

EIS004MH

- The Intelligent Key system is a system that makes it possible to lock and unlock the door locks (door lock function) and start the engine (engine start function) by carrying around the Intelligent Key, which operates based on the results of electrical key-ID verification using two-way communications between the Intelligent Key and the vehicle
- Operation of the remote control buttons on the Intelligent Key also provides the same functions as the remote control entry system. (Remote control entry functions)
- As an ignition key warning function, when a door lock is locked or unlocked with entry switch or remote controller button operation, the hazard lamps flash and the Intelligent Key warning buzzer sounds.
- Even if the vehicle or Intelligent Key battery runs down, the door locks can be locked and unlocked and the engine started with the mechanical key built into the Intelligent Key.
- If an Intelligent Key is lost, a new Intelligent Key can be registered. A maximum of 4 Intelligent Keys can be registered.
- It has been made possible to diagnose the system, change the function setting and register an Intelligent Key with the CONSULT-II.

DOOR LOCK FUNCTION

Operation Description

- When the driver door, passenger door, or back door request switch is pressed, Intelligent Key unit sends a request signal from the transmission antenna corresponding to the pressed door request switch, key-ID verification is performed using two-way communication with Intelligent Key, and if ID is successfully verified, a door lock/unlock request signal is sent to BCM (Body Control Module) using CAN communication to lock/unlock the door lock.
- When door is locking, door is unlocked, when door is unlocking, door is locked.
- When door lock is locked/unlocked by door request switch operation, hazard lamps flash and Intelligent Key warning buzzer sounds.
- With the locking operation of door request switch, door lock actuators of all door are locked.

Driver side door request switch operation

- When door request switch (driver side) is pushed (unlock), driver side door lock actuator is unlocked.

- When door request switch (driver side) is pushed (unlock) for the second time within 5 seconds after the first operation, door lock actuators on passenger's and other's doors are unlocked.
- Unlock mode can be changed using “WORK SUPPORT” mode in “DOOR LOCK-UNLOCK SET”. Refer to BL-185, "CONSULT-II Function (INTELLIGENT KEY)" .

Passenger side door request switch operation

- When door request switch (passenger side) is pushed (unlock), passenger side door lock actuator is unlocked.
- When door request switch (passenger side) is pushed (unlock) for the second time with in 5 seconds after the first operation, door lock actuators on driver's and other's doors are unlocked.
- Unlock mode can be changed using “WORK SUPPORT” mode in “DOOR LOCK-UNLOCK SET”. Refer to BL-185, "CONSULT-II Function (INTELLIGENT KEY)" .

Operation Condition

Request switch operation	Operating conditions (When all the conditions below are met)
Door request switch (Driver side) Door request switch (passenger side) Door request switch (back door)	● Closing all doors (door switch: OFF) ● Key switch OFF (key removed) ● Ignition knob switch: OFF (ignition knob switch not pressed) ● The Intelligent Key is in the antenna detection area for the door for which the door request switch was operated.

Operation Range

The antenna detection area for each door is about 80 cm (31.50 in) from the handle of each door (driver door, passenger door and back door). However, this operating range depends on the ambient conditions.

Auto Door Lock Function

After the door request switch in the driver or passenger or back door is operated and the vehicle door locks are unlocked, all the doors are automatically locked unless the mechanical key is inserted into the ignition knob, the ignition knob is pressed, any one of the doors is opened, or an Intelligent Key remote control button is operated within 30 seconds.

Key Reminder Function

Number of times the hazard lamps are flashed and the Intelligent Key warning buzzer buzzed when the door lock is locked or unlocked by door request switch operation.

Vehicle operation	Hazard lamp	Intelligent Key warning buzzer
Door unlock operation	Twice	Twice
Door lock operation	Once	Once

Intelligent Key Lock-in Prevention Function

When Intelligent Key is in vehicle, a door is open, and doors are locked using door lock and unlock switch, driver door lock knob, or door request switch, Intelligent Key unit sends door unlock request signal to BCM via CAN communication to unlock all doors to prevent Intelligent Key from becoming locked in vehicle.

CAUTION:

The above function operates when the Intelligent Key is inside the vehicle. However, there may be times when Intelligent Key cannot be detected and this function will not operate when Intelligent Key is on the instrument panel, rear parcel shelf, or in the glove box. Also, this system some times does not operate if the Intelligent Key is in the door pocket for the open door.

REMOTE CONTROL ENTRY FUNCTIONS

Door Lock Function

- Operating a remote controller button on the Intelligent Key sends the Intelligent Key-ID to the Intelligent Key unit. Intelligent Key unit conducts a verification of the received key-ID, and if the verification is accepted, a door lock or door unlock request signal is sent to BCM via CAN communication to lock/unlock the door lock.
- When door lock/unlock is performed using Intelligent Key remote controller button operation, operation confirmation is conducted by making hazard lamps flash and Intelligent Key warning buzzer sound.

OPERATION CONDITION

Remote control operation	Operation condition
Door lock operation	● All doors closed ● Key switch OFF (key removed) ● Ignition knob switch: OFF (ignition knob not pressed)
Door unlock operation	● Key switch OFF (key removed) ● Ignition knob switch: OFF (ignition knob not pressed)

Map Lamp And Keyhole Illumination Function

When the following conditions come:

- condition of map lamp switch is DOOR position;
- door switch OFF (when all the doors are closed);

Remote keyless entry system turns on interior lamp (for 30 seconds) with input of UNLOCK signal from Intelligent Key.
For detailed description, refer to LT-200, "INTERIOR ROOM LAMP" .

Key Reminder Function

As an operation verification function, when door locks are locked or unlocked using Intelligent Key remote controller button operation, hazard lamps flash and Intelligent Key warning buzzer sounds.

Vehicle operation	Hazard lamp	Intelligent Key warning buzzer
Door unlocking operation	Twice	Twice
Door locking operation	Once	Once

Operation Range

The range for reliable remote control operation is about 80 cm (31.50 in) from each door handle (driver, passenger, and back door). However, this operating range depends on the ambient conditions.

ENGINE STARTUP FUNCTION

Operation Description

- When ignition knob is pressed, Intelligent Key unit sends request signal from inside key antenna, key-ID verification is conducted with Intelligent Key using two-way communication, and if verification is successful, an ignition rotation prohibition latch release signal is sent to steering lock unit. Steering lock unit releases ignition knob rotation prohibition latch. (Ignition knob can now be turned.)
- When it becomes possible to rotate the ignition knob, “KEY” warning lamp in combination meter lights up green to notify driver that ignition knob can be turned.

  NOTE:
  When it becomes impossible to rotate the ignition knob, “KEY” warning lamp in combination meter lights up red.
- When key-ID verification is successful and ignition knob switch is in the ON state, Intelligent Key unit uses CAN communication to send engine start permission signal to BCM.
- When BCM receives engine start permission signal, it uses CAN communication to sent starter request signal to IPDM E/R so that the engine will start when ignition knob is rotated to START position.

Operation Range

Engine can be started when Intelligent Key is in vehicle. However, sometimes engine might not start when Intelligent Key is on instrument panel, rear parcel shelf, or in glove box.

NOTE:
luggage room is not within the operation range, but sometimes it is possible to start the engine from there.

Active Check Function

Confirm whether or not ignition knob can be rotated by checking the color of warning lamp in combination meter.

Condition	Operation
Ignition knob rotation possible	“KEY” warning lamp in combination meter is lit up green.
Ignition knob rotation not possible	“KEY” warning lamp in combination meter is lit up red.

WARNING AND ALARM FUNCTION

Operation Description

The warnings and alarms are as follows and are given to the user as warning information and warnings using combinations of Intelligent Key warning buzzer (in driver door), inside vehicle buzzer (in combination meter), and warning lamps “KEY” and “LOCK.”

- Ignition switch return forgotten warning
  With the ignition in OFF or ACC position, if the driver door is opened, this warning is issued.
- Key left in ignition warning (when mechanical key used)
  With the mechanical key in the ignition knob and the ignition switch is in the OFF, ACC, or LOCK position, if the driver door is opened, this warning is issued.
- Ignition switch OFF position warning (for inside car: when door closed)
  This warning is issued when the user forgets to return the ignition knob to the LOCK position.
- Ignition switch OFF position warning (for outside car: when door opened/closed)
  This warning is issued when the user leaves the car without returning the ignition knob to the LOCK position.
- Warning for removal of Intelligent Key to outside the car (when door open/closed)
  This warning is issued if the Intelligent Key is taken outside the car while the engine is running.
- Warning for removal of Intelligent Key to outside the car (from window)
  This warning is issued if the Intelligent Key is taken outside the car through a window while the engine is running.
- Door lock non-operation warning
  This warning is issued if the door lock (lock) operation by a door request switch is not effected.
- Intelligent Key low battery warning
  This warning is issued when it is detected that the battery in the Intelligent Key has been used up.

Operation Condition

Warning and alarm names	Operating conditions (when all the conditions below are met)
Ignition knob return forgotten warning	● The ignition switch is in the ACC, OFF, or LOCK position (knob pressed) ● The driver door is opened.
Ignition key warning (When mechanical key used)	● The mechanical key is inserted in the ignition knob (key switch: ON) ● The ignition switch is in the ACC, OFF, or LOCK position. ● Driver door closed → open
Ignition knob OFF position warning (for inside car: when door closed)	● The ignition switch is in the OFF or LOCK position (knob pressed) ● In the above state, when the ACC switch is changed from ON to OFF and 1 second passes. (However, this warning is not issued if the mechanical key is inserted in the ignition knob.)
Ignition knob OFF position warning (for outside car: when door opened/closed)	● The ignition switch is in the OFF or LOCK position (knob pressed) ● In the above state, when the ACC switch is changed from ON to OFF and 1 second passes. (However, this warning is not issued if the mechanical key is inserted in the ignition knob.) ● Driver door open → closed
Warning for take out of Intelligent Key to outside the car (when door open/closed)	When Any of the Following Conditions Are Met ● When the ignition knob is pressed in so that it can be rotated (or has been rotated), if any of the doors has been opened, when all the doors are closed, the Intelligent Key unit compares the key-ID with that of the Intelligent Key using the inside key antenna (center console), if the results of the comparison are NG (the Intelligent Key is not found) ● When the ignition knob is pressed in so that it can be rotated (or has been rotated), if any of the doors is open, the Intelligent Key unit compares the key-ID with that of the Intelligent Key every 5 seconds using the inside key antenna (center console), if the results of the comparison are NG (the Intelligent Key is not found) **NOTE:** However, this warning is not issued if the mechanical key is inserted in the ignition knob.

Warning and alarm names	Operating conditions (when all the conditions below are met)
Warning for take out of Intelligent Key to outside the car (from window)	When the ignition knob is pressed in so that it can be rotated (or has been rotated), if the vehicle speed is no greater than 5 km per hour, the Intelligent Key unit compares the key-ID with that of the Intelligent Key every 30 seconds using the inside key antenna (center console), if the results of the comparison are NG (the Intelligent Key is not found) Note: The factory setting for this function is OFF.
Door lock non-operation warning	When any of the following conditions are met Intelligent Key Lock-in Prevention Warning ● When the Intelligent Key is inside the car and the ignition knob is not pressed, when an attempt is made to lock a door lock with a door request switch **NOTE:** This warning is issued even if the Intelligent Key is not in the door antenna detection area corresponding to the door request switch was operated. Knob Return Forgotten Warning ● When the ignition knob is pressed, when an attempt is made to lock a door lock with a door request switch **NOTE:** This warning is only issued if the Intelligent Key is in the door antenna detection area corresponding to the door request switch was operated. Door Ajar Alarm ● When any of the doors is open, when an attempt is made to lock a door lock with a door request switch **NOTE:** This warning is only issued if the Intelligent Key is in the door antenna detection area corresponding to the door request switch was operated.
Intelligent Key low battery prewarning	This warning is issued when it is detected that the battery in the Intelligent Key has been used up.

Warning Procedure

Warning and alarm names	Buzzer		Warning lamp	
	Inside car	Outside car	“KEY”	“LOCK”
Ignition switch return forgotten warning	Buzzer: Continuous	—	—	—
Ignition key warning (When mechanical key used)	Buzzer: Continuous	—	—	—
Ignition switch OFF position warning (for inside car: when door closed)	Buzzer (twice)	—	—	Illuminate
Ignition switch OFF position warning (for outside car: when door opened/closed)	—	Buzzer (3 seconds)	—	Illuminate
Warning for removal of Intelligent Key to outside the car (when door open/closed)	—	Buzzer (3 seconds)	Red illuminate	—
Warning for removal of Intelligent Key to outside the car (from window)	Buzzer (3 seconds)	—	Red illuminate	—
Door lock non-operation warning	—	Buzzer (2 seconds)	—	—
Intelligent Key low battery prewarning	—	—	Green illuminate (30 seconds after ignition switch comes ON)	—

CHANGE SETTINGS FUNCTION

The settings for each function can be changed with the CONSULT-II or Intelligent Key and door request switch operation.

Changing Settings With the Intelligent Key and Door Request Switches

Intelligent Key remote controller button and door request switch operations change the engine startup function settings (startup enabled/disabled) for each Intelligent Key independently.

Settings Change Procedure

1. With the ignition switch is in the LOCK position (ignition knob not pressed), hold down both the LOCK and UNLOCK remote control buttons on the Intelligent Key at the same time for at least 10 seconds (The yard-stick is that the Intelligent Key LED flashes 20 times.)
2. Within 5 seconds of releasing the Intelligent Key remote controller buttons, press the driver door request switch.
3. The KEY warning lamp in combination meter lights up for 3 seconds (engine starting enabled → starting disabled: lights up red, engine starting disabled → flashes green). This completes the settings change.

Changing Settings Using CONSULT-II

The settings for the Intelligent Key system functions can be changed using CONSULT-II (WORK SUPPORT).

NOTE:
Once a function setting is changed, it will remain effective even if the battery is disconnected.

INTELLIGENT KEY REGISTRATION

Intelligent Key-ID registration is executed using the CONSULT-II. Up to 4 can be registered.

CAUTION:

- **After a new Intelligent Key-ID is registered, be sure to check the function.**
- **When registering an additional Intelligent Key-ID, take any Intelligent Keys already registered and Intelligent Keys for any other vehicles out of the vehicle before starting.**

CONSULT-II can be used to check and delete Intelligent Key-IDs.
For future information, see the CONSULT-II Operation Manual NATS.

STEERING LOCK UNIT REGISTRATION

Steering Lock Unit ID Registration

CAUTION:

- **The method for registering a steering lock unit ID depends on the status of the steering lock unit and Intelligent Key unit (new or old unit).**
- **After registration is completed, press ignition knob with a portable unit in the vehicle so that it can be rotated, and confirm that it cannot be rotated even when ignition switch is pressed without a portable unit in the vehicle.**

For future information, see the CONSULT-II Operation Manual NATS.

CAN Communication

EIS00AOS

SYSTEM DESCRIPTION

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Unit

EIS00AOT

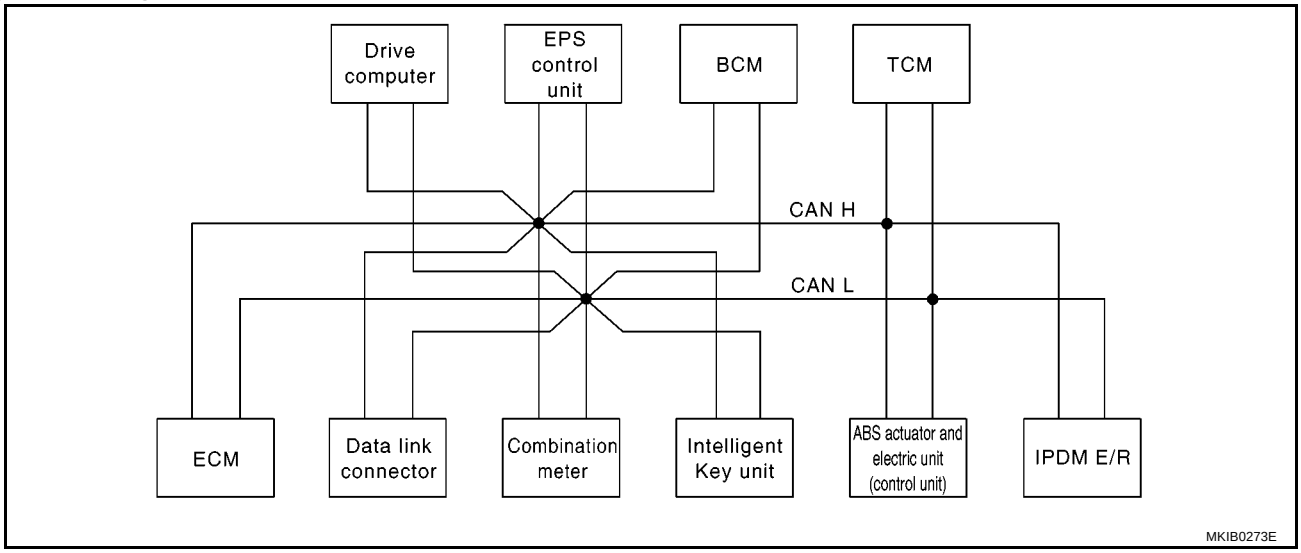
Go to CAN system, when selecting your car model from the following table.

Body type	3door/5door									
Axle	2WD									
Engine	CR10DE/CR12DE/CR14DE				CR12DE/CR14DE				K9K	
Handle	LHD/RHD									
Brake control	ABS system				ESP system				ABS	
Transmission	A/T		M/T		A/T		M/T		M/T	
Intelligent Key system	Applicable									
CAN communication unit										
ECM	×	×	×	×	×	×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×
Intelligent Key unit	×	×	×	×	×	×	×	×	×	×
Drive computer	×		×		×		×		×	
EPS control unit	×	×	×	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×	×	×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×	×	×	×	×
TCM	×	×			×	×				
IPDM E/R	×	×	×	×	×	×	×	×	×	×
CAN communication type	BL-160, "TYPE 1"		BL-162, "TYPE 3"		BL-164, "TYPE 5"		BL-167, "TYPE 7"		BL-169, "TYPE 9"	

×: Applicable

TYPE 1

System diagram



Input/output signal chart

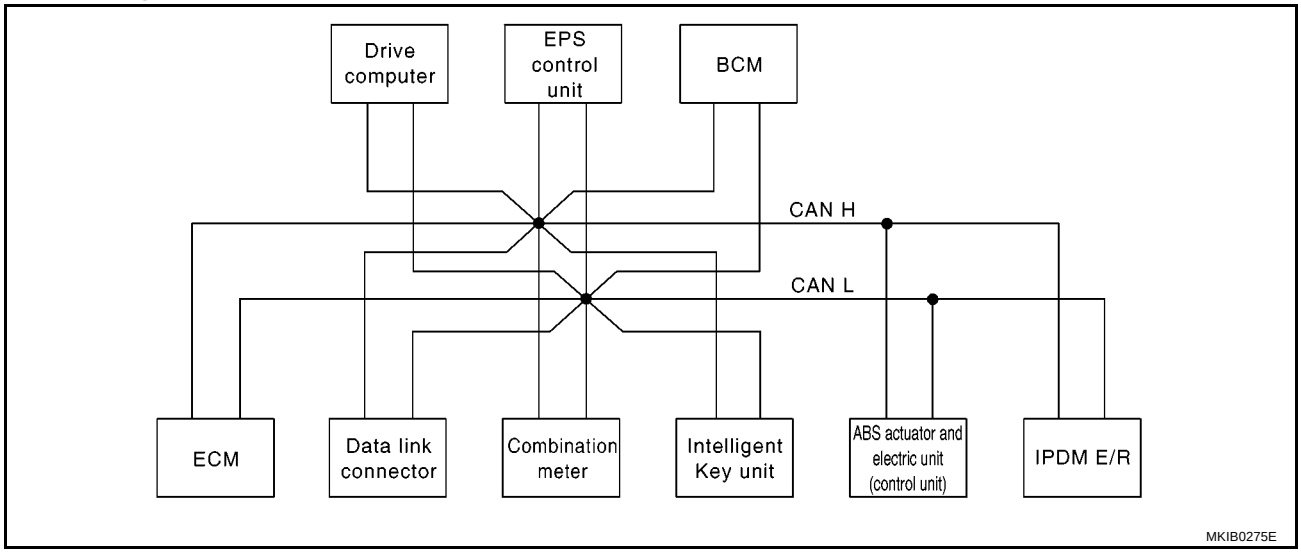
T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R				
Engine coolant temperature signal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T							R	
Closed throttle position signal	T							R	
Wide open throttle position signal	T							R	
A/T shift position signal		R						T	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ABS operation signal	R						T		
Brake warning lamp signal		R		R			T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

TYPE 3

System diagram



Input/output signal chart

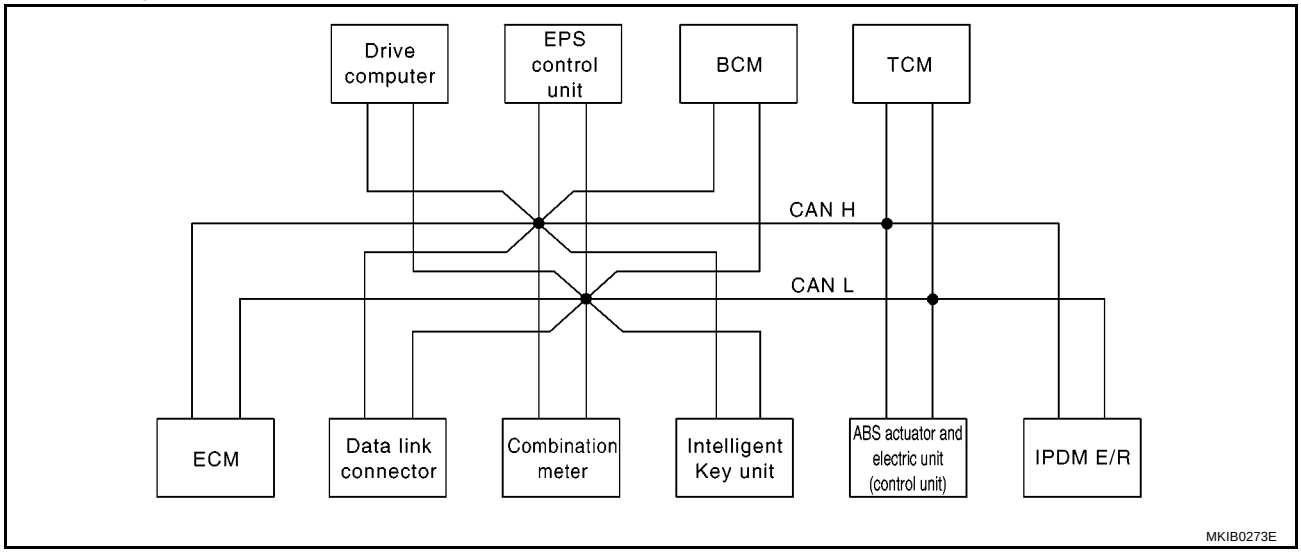
T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ABS operation signal	R			R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

TYPE 5

System diagram



Input/output signal chart

T: Transmit R: Receive

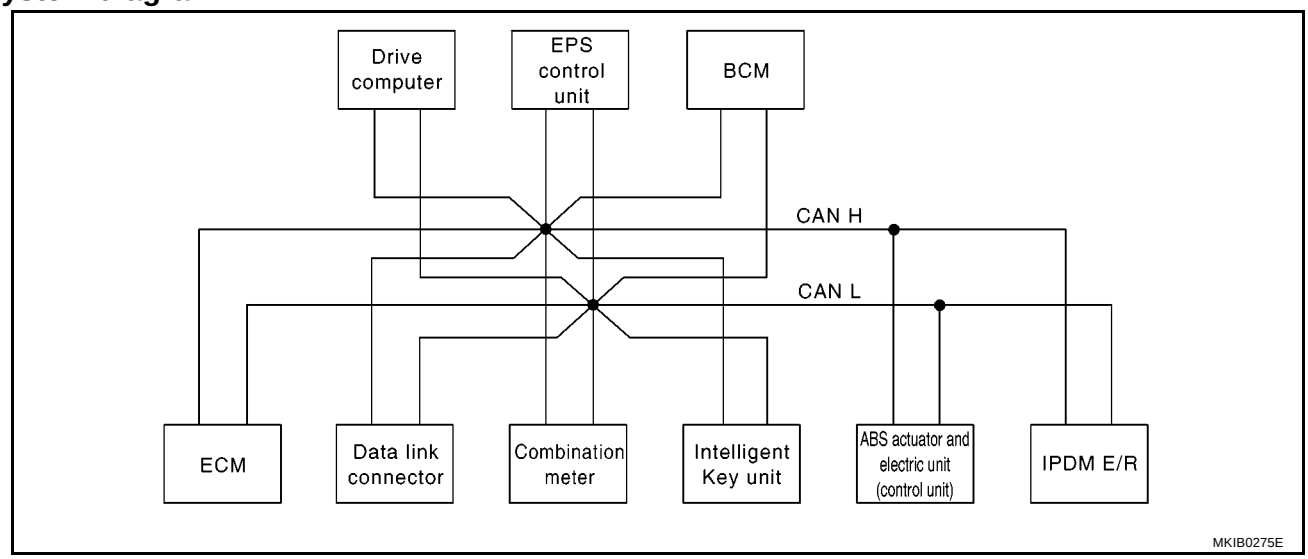
Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Engine speed signal	T	R		R	R		R		
Engine coolant temperature signal	T	R							
A/T self-diagnosis signal	R							T	
Output shaft revolution signal	R							T	
Accelerator pedal position signal	T						R	R	
Closed throttle position signal	T							R	
Wide open throttle position signal	T						R	R	
A/T shift position signal		R						T	
A/T shift schedule change demand signal							T	R	
Stop lamp switch signal		T						R	
O/D OFF indicator lamp signal		R						T	
Engine and A/T integrated control signal	T							R	
	R							T	
Fuel consumption monitor signal	T	R							
Oil pressure switch signal		R		R					T
A/C compressor request signal	T								R
A/C switch signal	R								T
Heater fan switch signal	R					T			
Cooling fan speed request signal	T								R
Cooling fan speed status signal	R								T
Position lights request signal		R		R		T			R

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Position light status signal	R								T
Low beam request signal						T			R
Low beam status signal	R								T
High beam request signal		R				T			R
High beam status signal	R								T
Day time light request signal						T			R
Vehicle speed signal	R	R			R		T		
	R	T	R	R	R	R			
Sleep/wake up signal		R	R			T			R
Door switch signal		R	R	R		T			R
Turn indicator signal		R				T			
Buzzer output signal		R				T			
		R	T						
MI signal	T	R		R					
Front wiper request signal						T			R
Front wiper stop position signal						R			T
Rear window defogger switch signal						T			R
Rear window defogger control signal	R								T
Drive computer signal		T		R					
EPS warning lamp signal		R		R	T				
ABS warning lamp signal		R		R			T		
ESP warning lamp signal		R		R			T		
ESP OFF indicator signal		R					T		
SLIP indicator lamp signal		R					T		
ESP operation signal	R						T		
TCS operation signal	R						T		
ABS operation signal	R						T		
Steering angle signal					T		R		
Brake warning lamp signal		R					T		
Buck-up lamp signal					R	T			
Fuel low warning signal		T		R					
Battery charge malfunction signal		T		R					
Air bag system warning signal		T		R					
Brake fluid level warning signal		T		R					
Engine coolant temperature warning signal		T		R					
Front fog lamp request signal		R				T			R
Rear fog lamp status signal		R				T			
Headlamp washer request signal						T			R

Signals	ECM	Combi-nation meter.	Intelli-gent Key unit	Drive com-puter	EPS control unit	BCM	ABS actuator and electric unit (control unit)	TCM	IPDM E/R
Door lock/unlock request signal			R			T			
Door lock/unlock status signal			R			T			
KEY indicator signal		R	T						
LOCK indicator signal		R	T						

TYPE 7

System diagram



Input/output signal chart

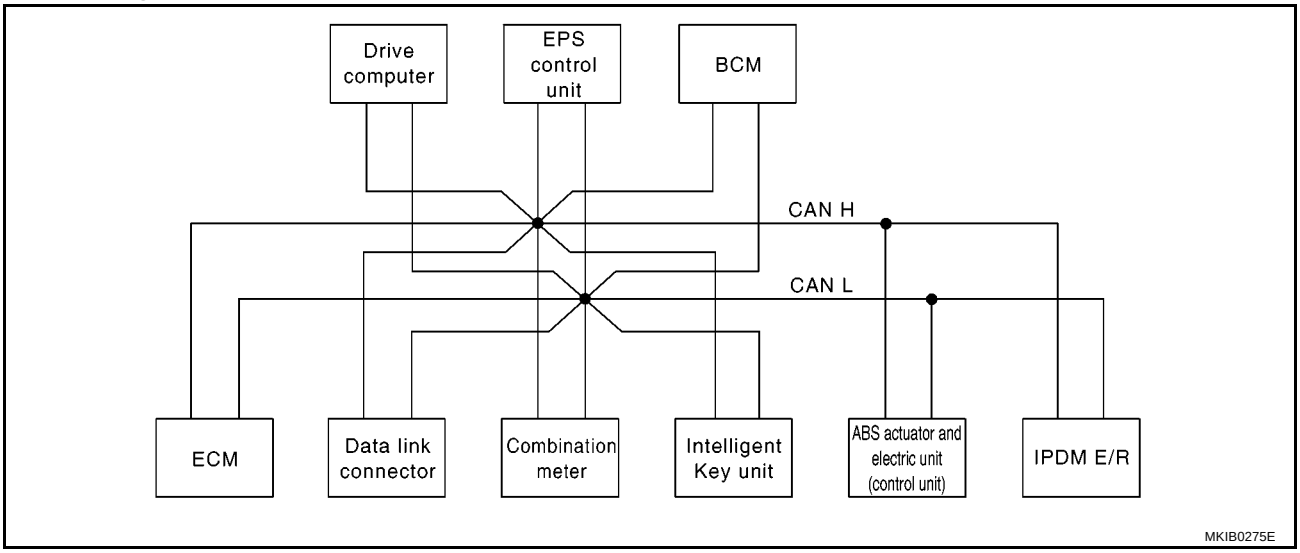
T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R		R	
Engine coolant temperature signal	T	R						
Fuel consumption monitor signal	T	R						
Accelerator pedal position signal	T						R	
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
A/C switch signal	R							T
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Cooling fan speed status signal	R							T
Position lights request signal		R		R		T		R
Position light status signal	R							T
Low beam request signal						T		R
Low beam status signal	R							T
High beam request signal		R				T		R
High beam status signal	R							T
Day time light request signal						T		R
Vehicle speed signal	R	R			R		T	
	R	T	R	R	R	R		
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Rear window defogger control signal	R							T
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			
ABS warning lamp signal		R		R			T	
ESP warning lamp signal		R		R			T	
ESP OFF indicator signal		R					T	
SLIP indicator lamp signal		R					T	
ESP operation signal	R						T	
TCS operation signal	R						T	
ABS operation signal	R						T	
Steering angle signal					T		R	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			R			T		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

TYPE 9

System diagram



Input/output signal chart

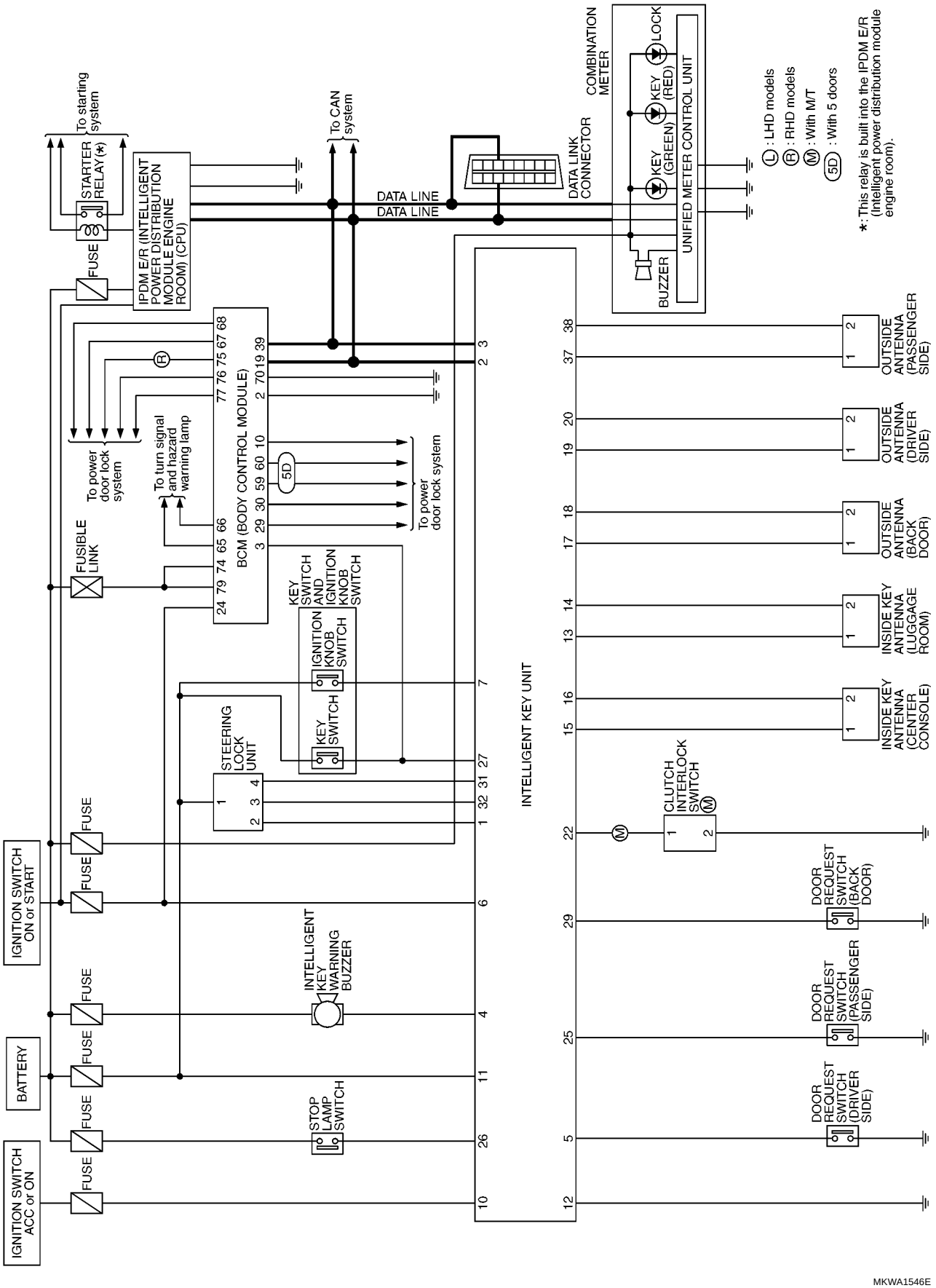
T: Transmit R: Receive

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R		R	R			
Engine coolant temperature signal	T	R				R		
Fuel consumption monitor signal	T	R						
Oil pressure switch signal		R		R				T
A/C compressor request signal	T							R
Heater fan switch signal	R					T		
Cooling fan speed request signal	T							R
Position lights request signal		R		R		T		R
Low beam request signal						T		R
High beam request signal		R				T		R
Day time light request signal						T		R
Vehicle speed signal	R	R			R	R	T	
	R	T	R	R	R			
Sleep/wake up signal		R	R			T		R
Door switch signal		R	R	R		T		R
Turn indicator signal		R				T		
Buzzer output signal		R				T		
		R	T					
MI signal	T	R		R				
Front wiper request signal						T		R
Front wiper stop position signal						R		T
Rear window defogger switch signal						T		R
Drive computer signal		T		R				
EPS warning indicator signal		R		R	T			

Signals	ECM	Combination meter.	Intelligent Key unit	Drive computer	EPS control unit	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
ABS warning lamp signal		R		R			T	
ABS operation signal				R			T	
Brake warning lamp signal		R					T	
Buck-up lamp signal					R	T		
Fuel low warning signal		T		R				
Battery charge malfunction signal		T		R				
Air bag system warning signal		T		R				
Brake fluid level warning signal		T		R				
Engine coolant temperature warning signal		T		R				
Front fog lamp request signal		R				T		R
Rear fog lamp status signal		R				T		
Headlamp washer request signal						T		R
Door lock/unlock request signal			T			R		
Door lock/unlock status signal			R			T		
KEY indicator signal		R	T					
LOCK indicator signal		R	T					

Schematic —I/KEY—

EIS004MK

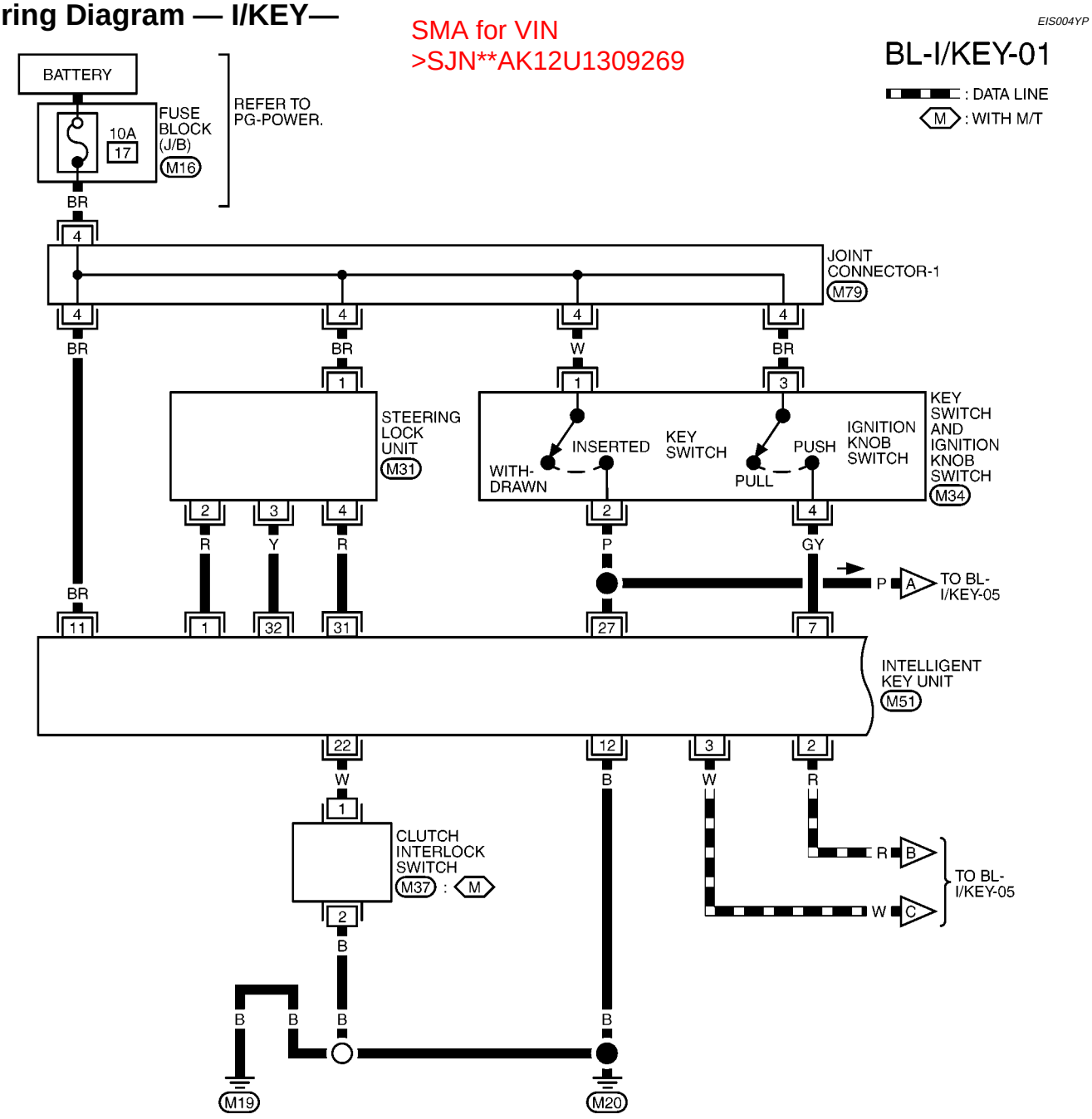


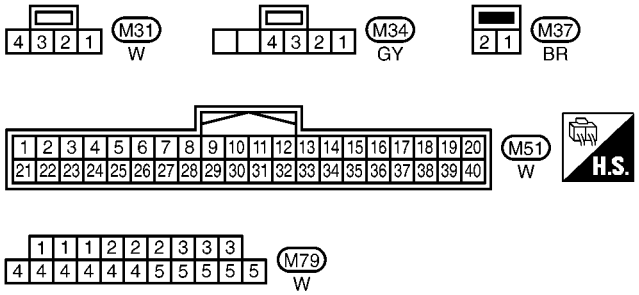
MKWA1546E

Wiring Diagram — I/KEY—

SMA for VIN
>SJN**AK12U1309269

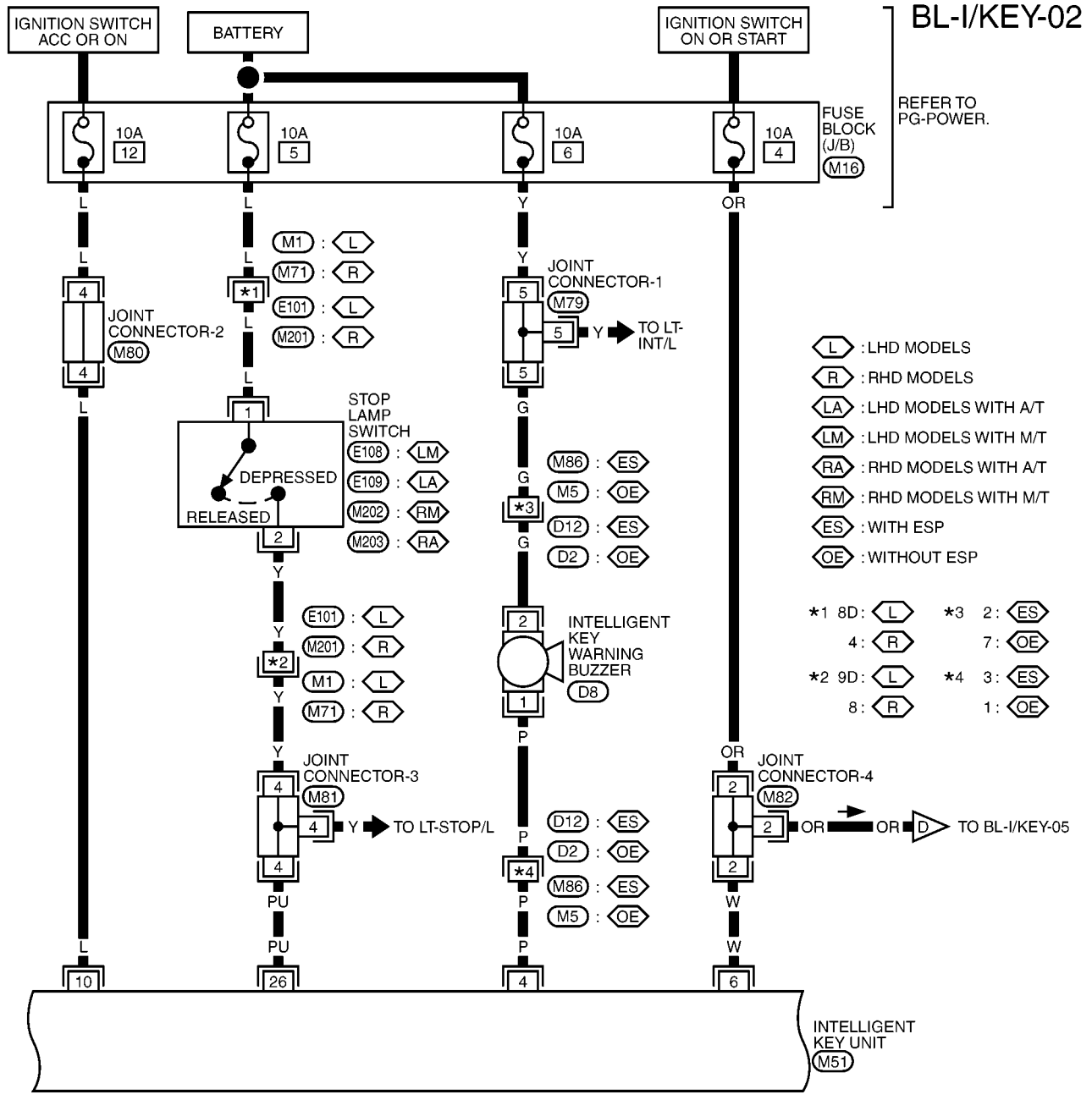
EIS004YP

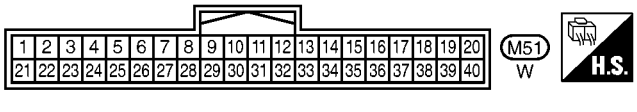


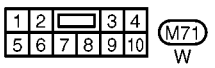


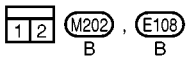
REFER TO THE FOLLOWING.
M16 -FUSE BLOCK-JUNCTION BOX (J/B)

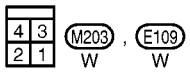
MKWA1406E

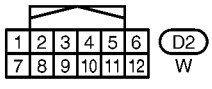


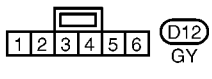








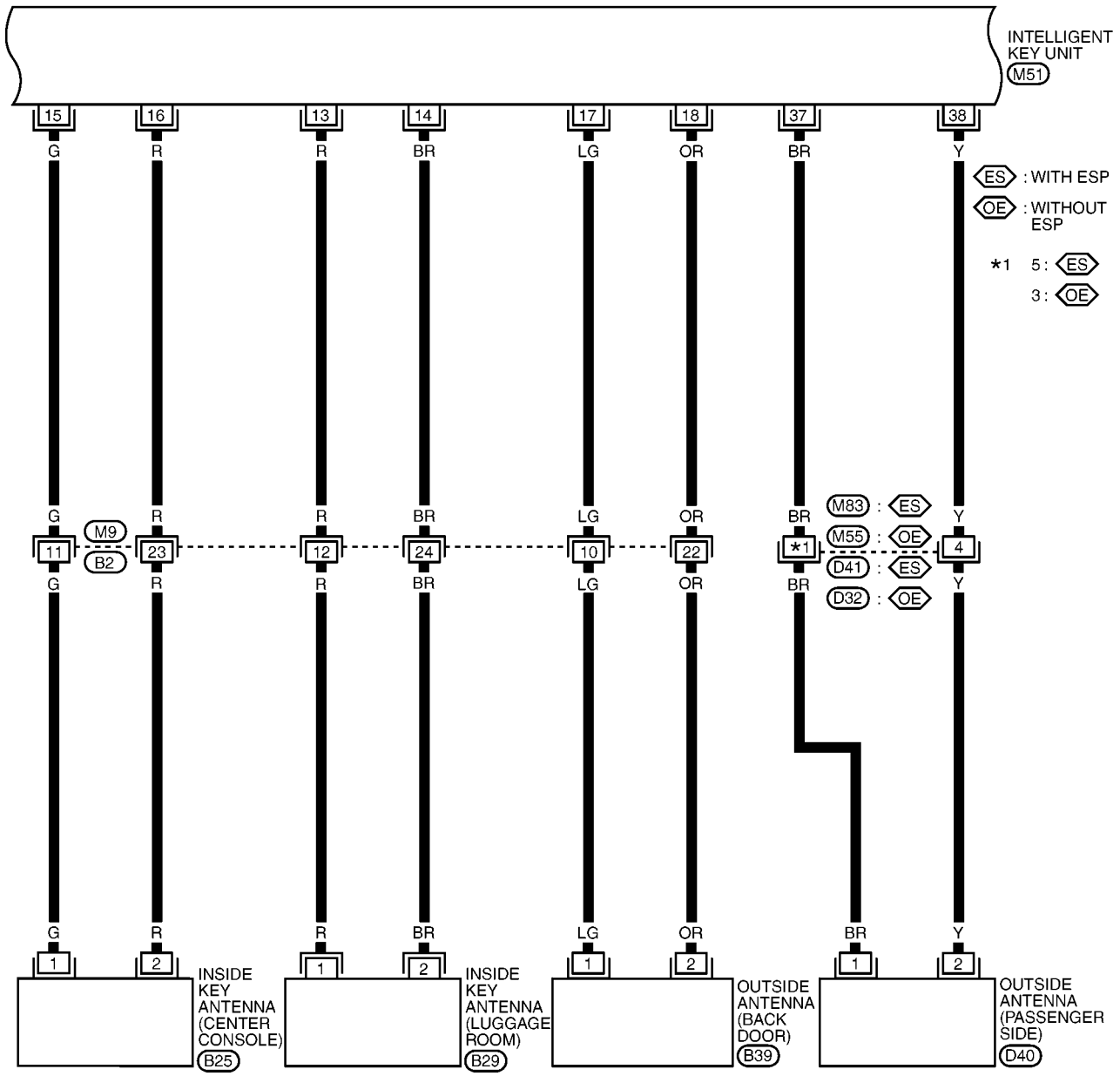




REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)
M79 , M80 , M81 , M82 -JOINT CONNECTOR (J/C)

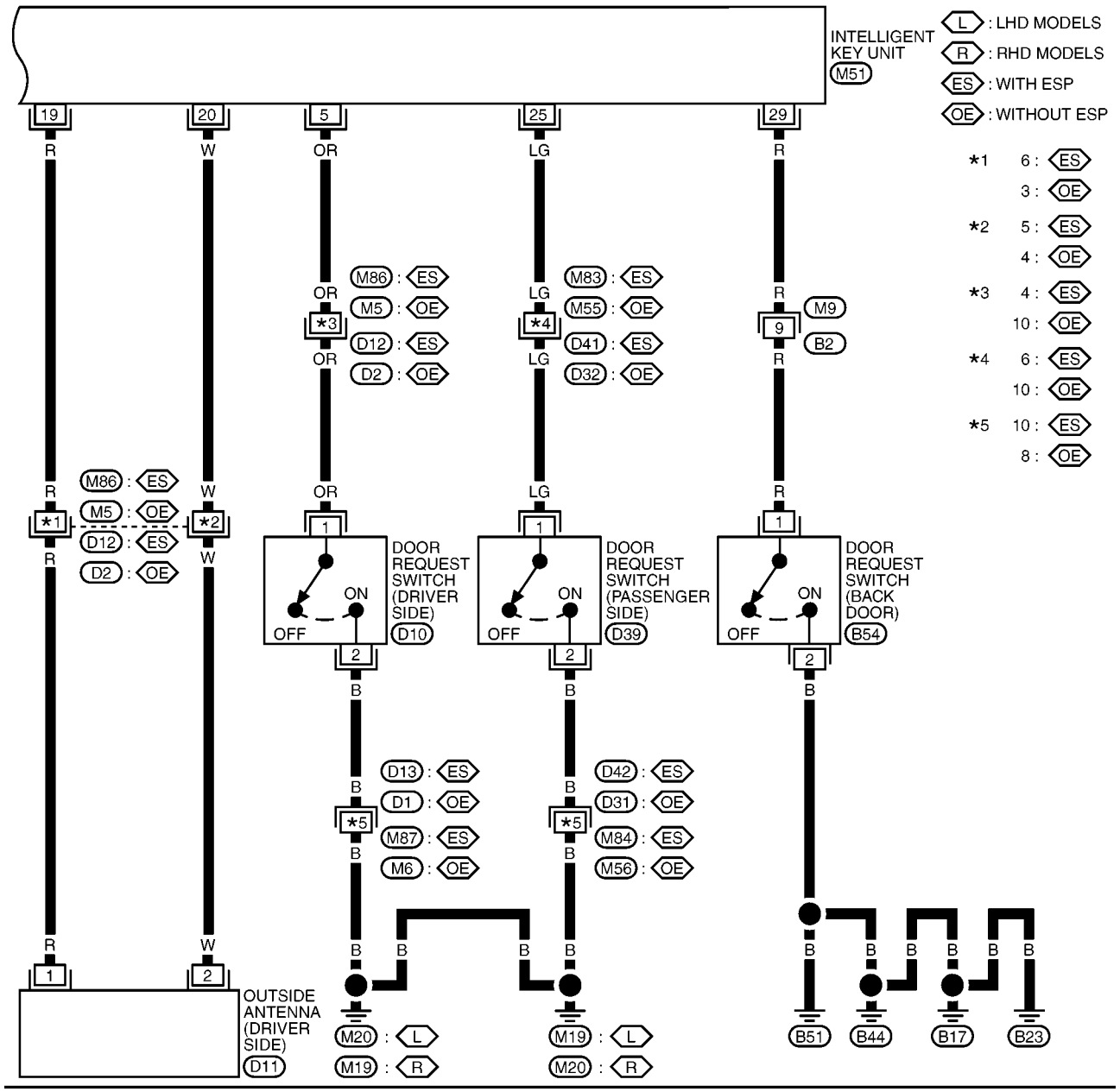
MKWA1793E

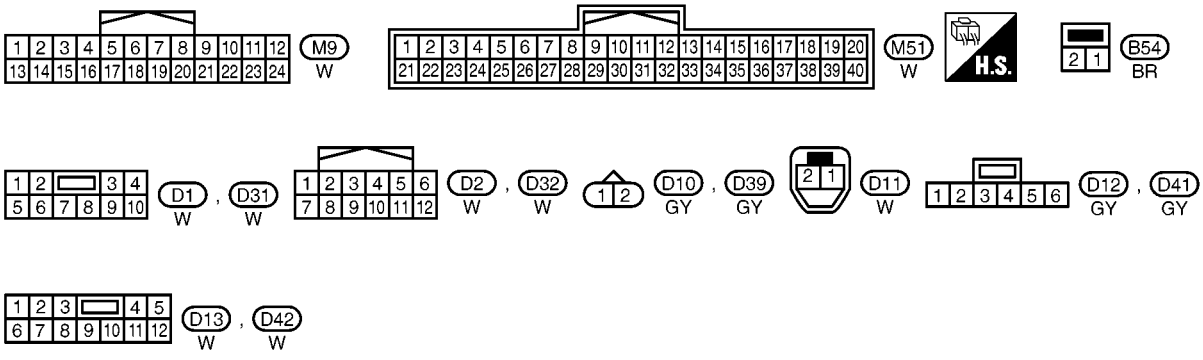
BL-I/KEY-03



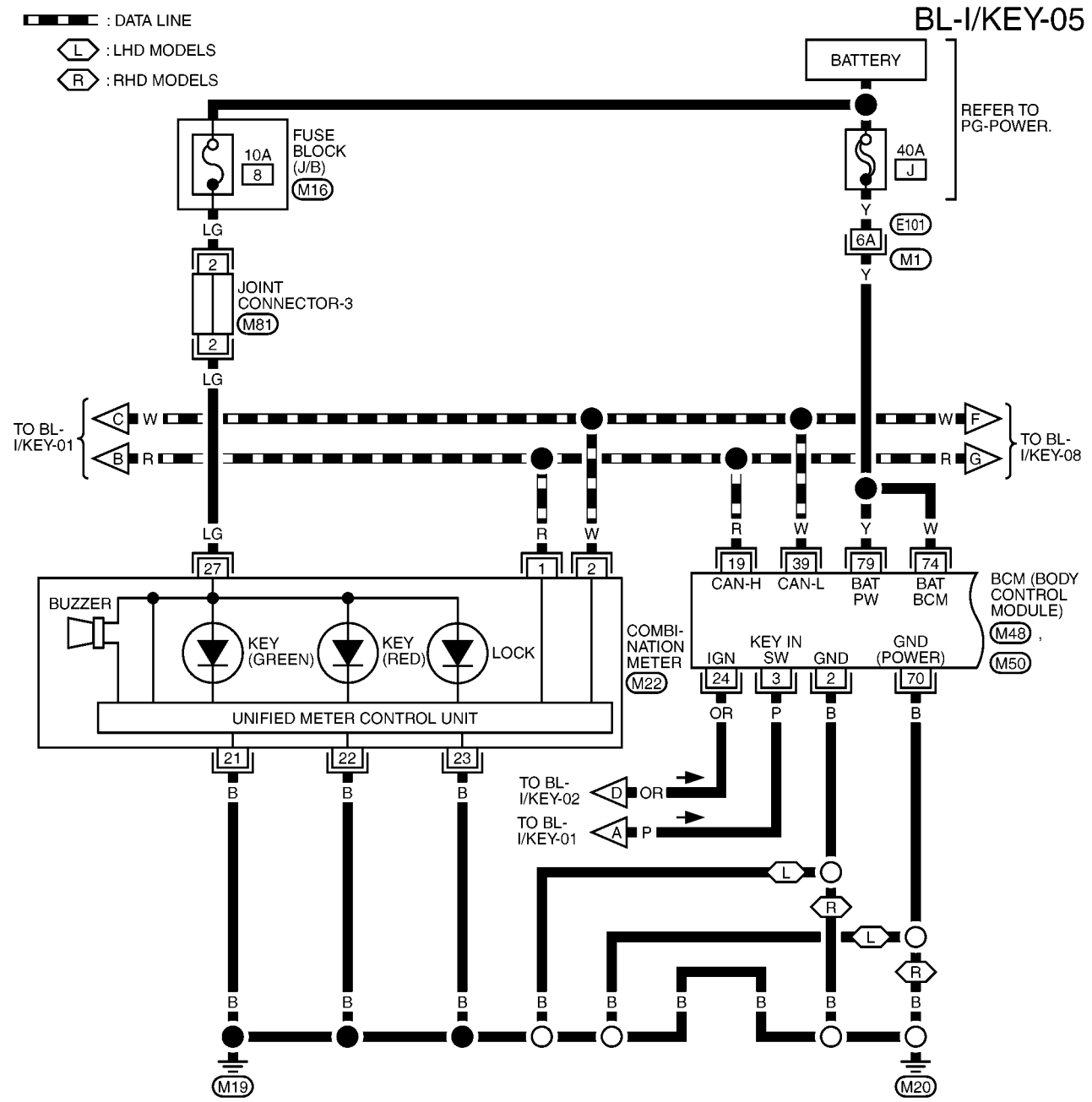
MKWA1794E

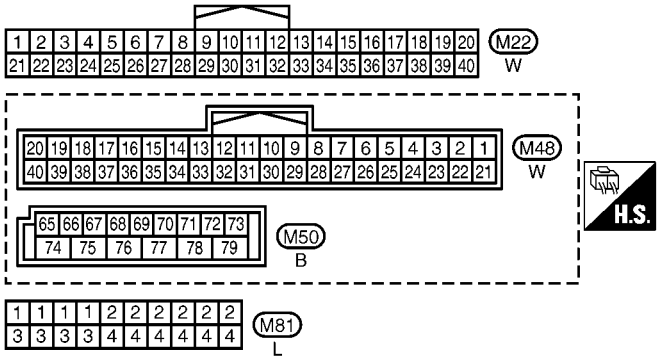
BL-I/KEY-04





MKWA1795E



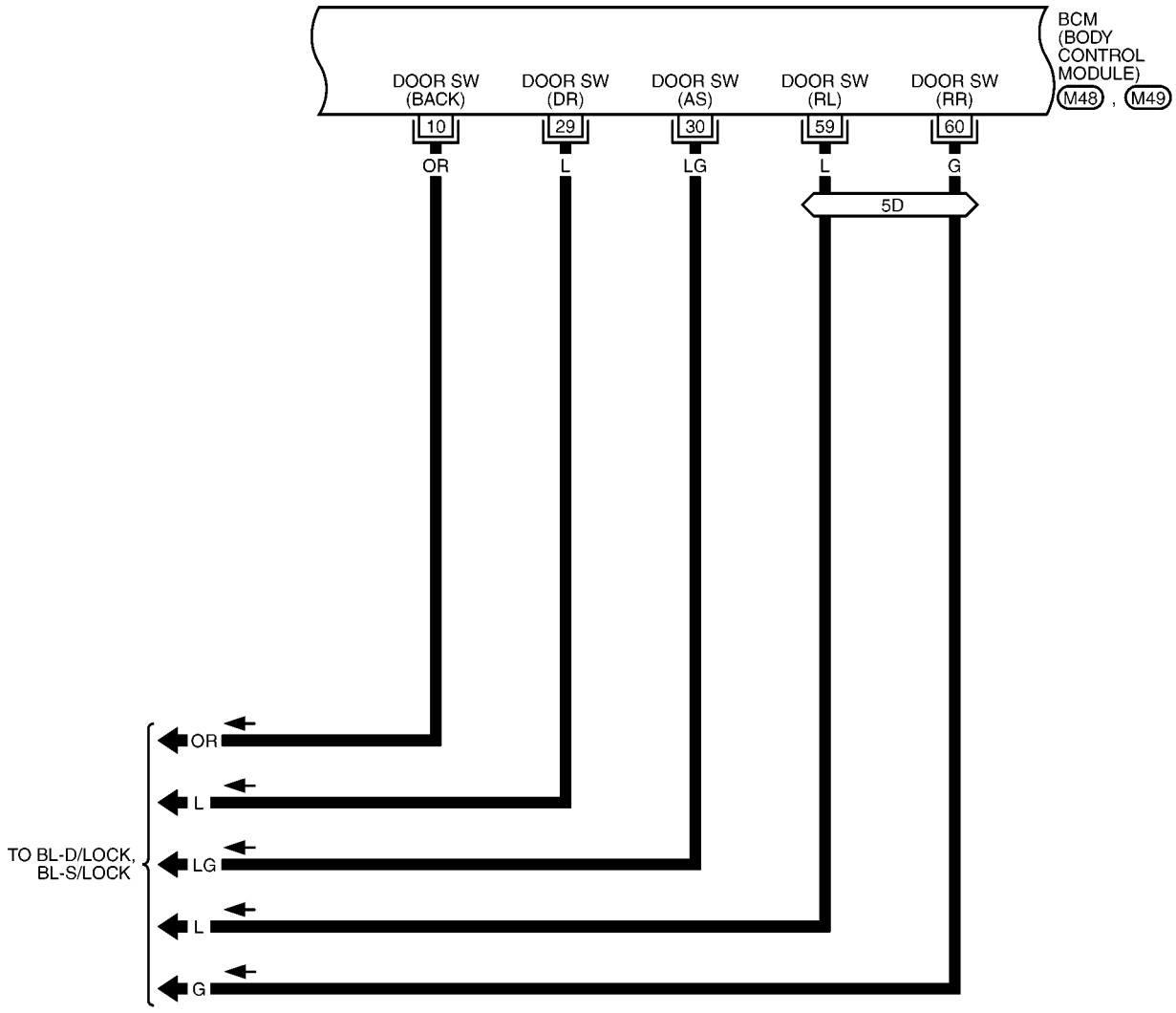


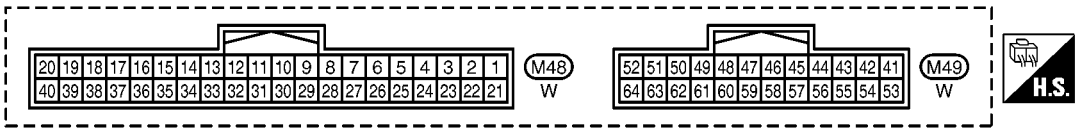
REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)

MKWA1796E

BL-I/KEY-06

5D : WITH 5 DOORS

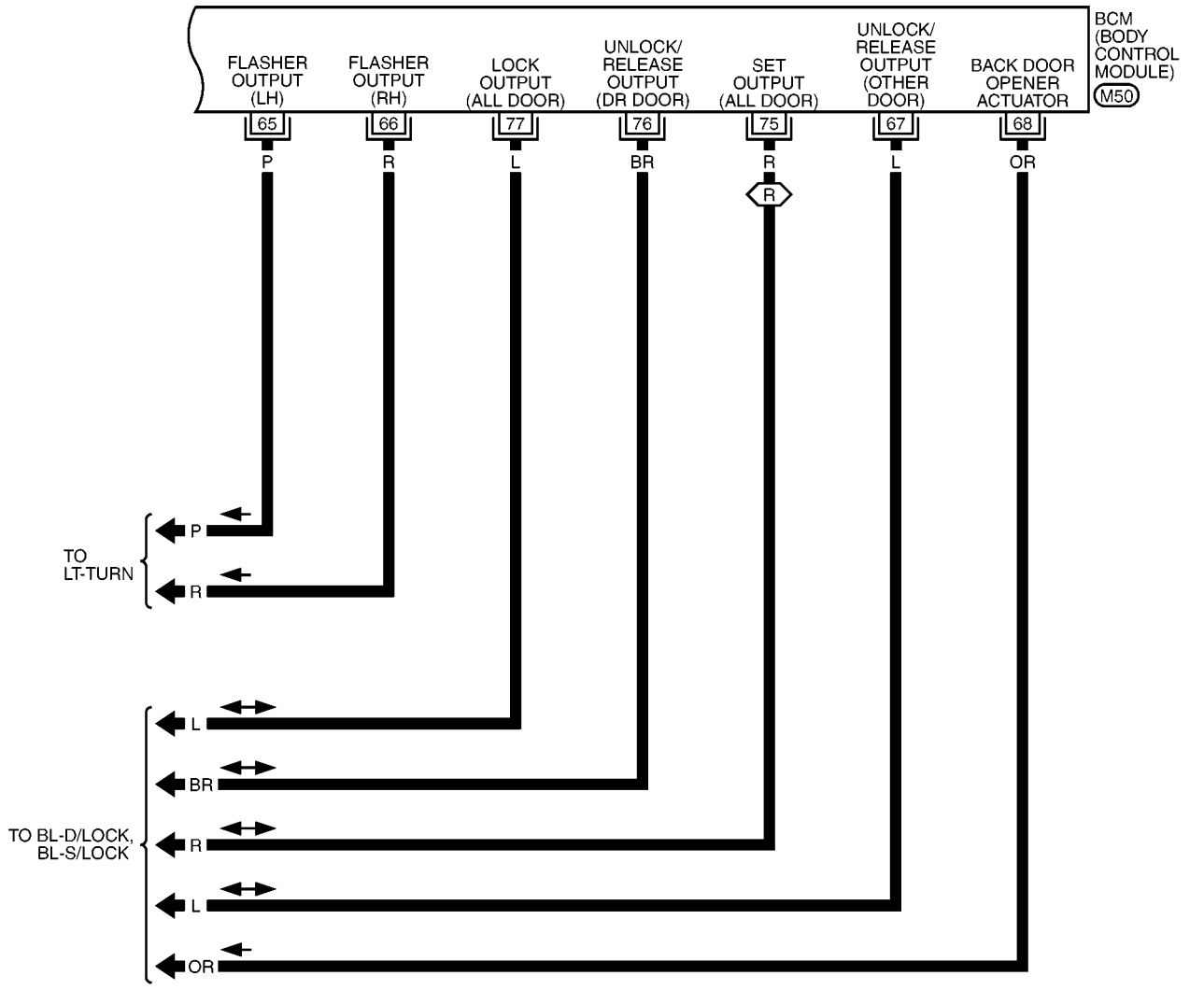


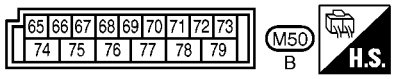


MKWA1412E

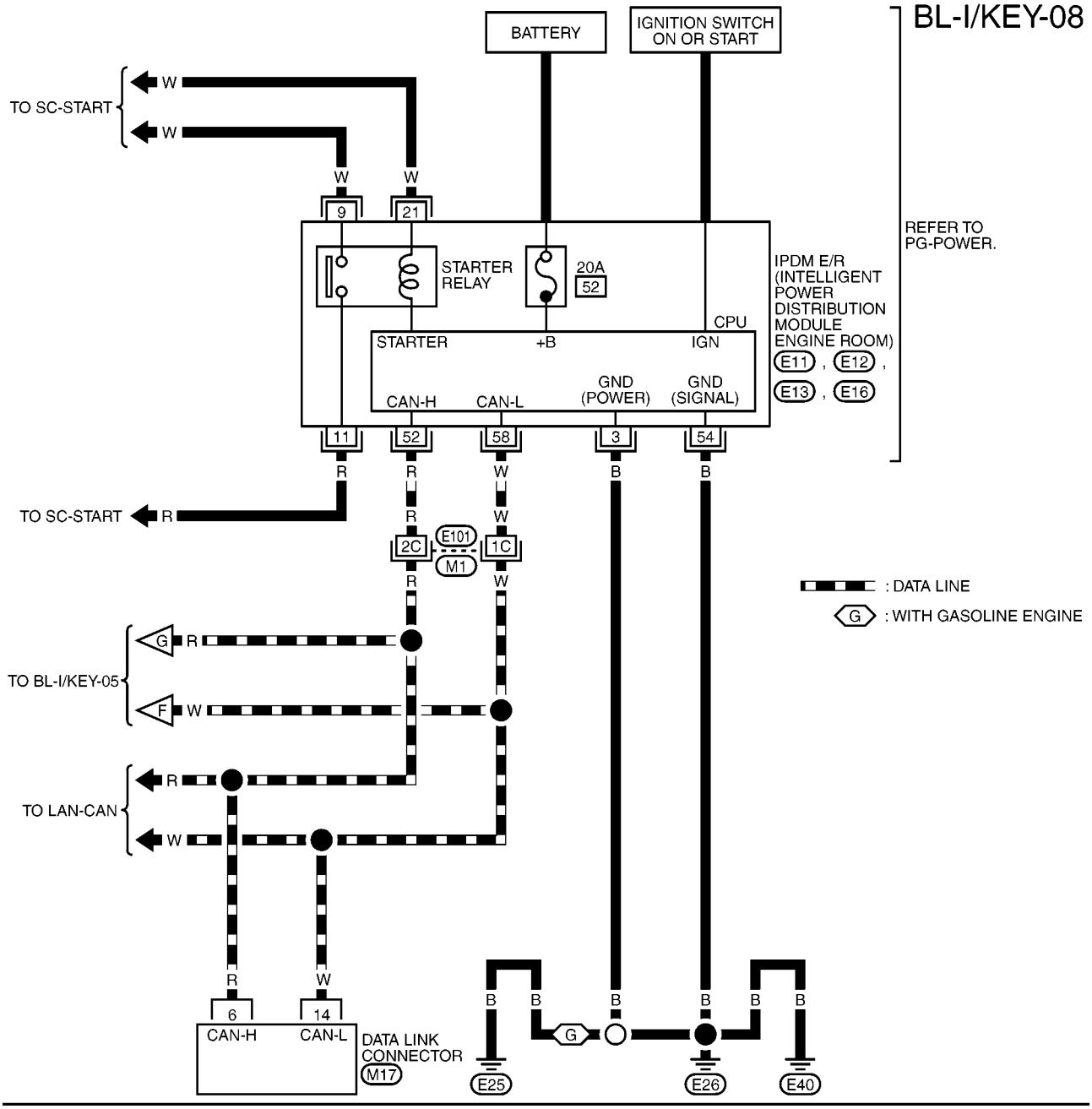
BL-I/KEY-07

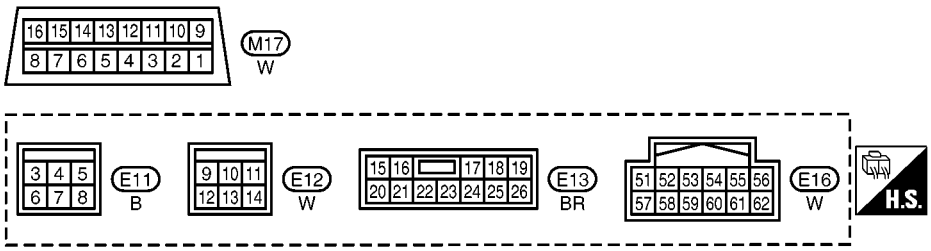
R : RHD MODELS





MKWA1413E



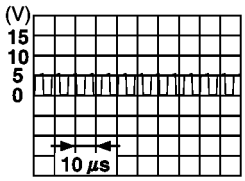
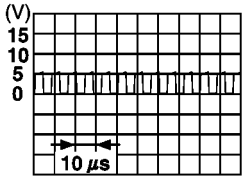
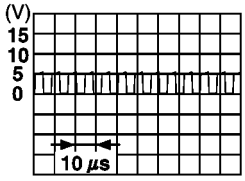
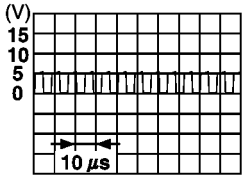


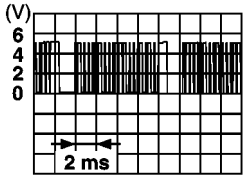
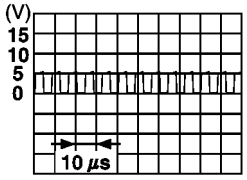
REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)

MKWA1414E

Terminals and Reference Value for INTELLIGENT KEY UNIT

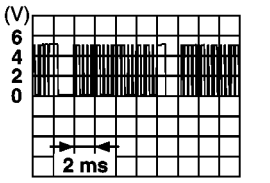
EIS004ML

Terminal No.	Wire color	ITEM	Measuring condition			Standard (V) Approx.
			Ignition knob position	Operation or conditions		
1	R	Steering lock unit power supply	LOCK	—		5
2	R	CAN-H	—	—		—
3	W	CAN-L	—	—		—
4	P	Intelligent Key warning buzzer	LOCK	Operate remote controller button or door request switch.	Buzzer OFF	Battery voltage
					Sound buzzer	0
5	OR	Door request switch (driver side)	—	Door request switch operation: Press (ON).		0
				Other than the above (OFF)		5
6	W	Ignition power supply	ON	—		Battery voltage
7	GY	Ignition knob switch	—	Press ignition knob.		Battery voltage
				Return ignition knob to LOCK position.		0
10	L	ACC power supply	ACC	—		Battery voltage
11	BR	Battery power supply	—	—		Battery voltage
12	B	GND	—	—		0
13	R	Inside key antenna (+) (Luggage room)	LOCK	Any door open → all doors shut (Door switch: ON → OFF)		 SIIA1910J
14	BR	Inside key antenna (-) (Luggage room)				
15	G	Inside key antenna (+) (Center console)	LOCK	Any door open → Close (Door switch: ON → OFF) Ignition knob switch: ON (press ignition knob.)		 SIIA1910J
16	R	Inside key antenna (-) (Center console)				
17	LG	Out side antenna (+)	LOCK	Back door request switch operation (Switch: ON)		 SIIA1910J
18	OR	Back door antenna (-)				
19	R	Outside antenna (driver side) (+)	LOCK	Driver door request signal operation (Switch: ON)		 SIIA1910J
20	W	Outside antenna (driver side) (-)				
22	W	Clutch inter lock switch	—	Clutch pedal depressed (ON)		0
				Clutch pedal not depressed (OFF)		5

Terminal No.	Wire color	ITEM	Measuring condition		Standard (V) Approx.
			Ignition knob position	Operation or conditions	
25	LG	Door request switch (passenger side)	—	Door request switch operation: Press (ON)	0
				Other than the above (OFF)	5
26	PU	Stop lamp switch	—	Brake pedal depressed (ON)	5
				Brake pedal not depressed (OFF)	0
27	P	Key switch	LOCK	Insert mechanical key into ignition key cylinder.	Battery voltage
				Remove mechanical key from ignition key cylinder.	0
29	R	Door request switch (back door)	—	Back door request switch operation: Press (ON)	0
				Other than the above (OFF)	5
31	R	Steering lock unit ground	—	—	0
32	Y	Steering lock unit communication signal	LOCK	Press ignition knob with Intelligent Key inside vehicle.	 SIIA1911J
				Other than the above	5
37	BR	Outside antenna (passenger side) (+)	LOCK	Passenger door request switch operation (Switch: ON)	 SIIA1910J
38	Y	Outside antenna (passenger side) (-)			

Terminals and Reference Value for Steering Lock unit

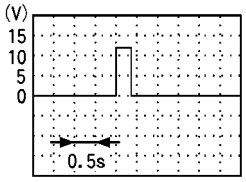
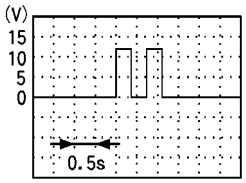
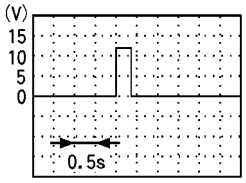
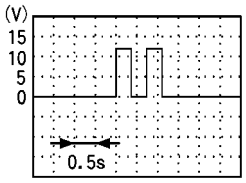
EIS004MM

Terminal number	Wire color	ITEM	Measuring condition		Standard (V) Approx.
			Ignition knob position	Operation or conditions	
1	BR	Battery power supply	LOCK	—	Battery voltage
2	R	Steering lock unit power supply	LOCK	—	5
3	Y	Steering lock unit communication signal	LOCK	Press ignition knob with Intelligent Key inside vehicle.	 SIIA1911J
				Other than the above	5
4	R	Steering lock unit ground	—	—	0

Terminal and Reference Value for BCM

EIS00569

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
2	B	Ground	—	0
3	P	Key switch	Mechanical key is removed from ignition knob (OFF) → Mechanical key is inserted in ignition knob (ON)	0 → Battery voltage
10	OR	Back door switch	Back door open (ON) → Back door close (OFF)	0 → Battery voltage
19	R	CAN-H	—	—
24	OR	IGN power supply	Ignition knob ON or START position	Battery voltage
29	L	Front door switch LH (LHD models)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Front door switch RH (RHD models)		
30	LG	Front door switch RH (LHD models)	Door open (ON) → Door close (OFF)	0 → Battery voltage
		Front door switch LH (RHD models)		
39	W	CAN-L	—	—
59	L	Rear door switch LH	Door open (ON) → Door close (OFF)	0 → Battery voltage
60	G	Rear door switch RH	Door open (ON) → Door close (OFF)	0 → Battery voltage

TER-MINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) Approx.
65	P	Answer back (Turn signal lamp LH)	When door lock operated using remote controller*1	 PIIA2486J
			When door unlock operated using remote controller*1	 PIIA2487J
66	R	Answer back (Turn signal lamp RH)	When door lock operated using remote controller*1	 PIIA2486J
			When door unlock operated using remote controller*1	 PIIA2487J
67	L	Door lock actuator unlock (ALL Door) (Except driver side)	Door lock/unlock switch UNLOCK operation	0 → Battery voltage
68	OR	Back door opener actuator	Power window main switch (Back door release switch) OPEN operation	Battery voltage → 0
70	B	Ground	—	0
74	W	BAT power supply (fusible link) (BCM)	—	Battery voltage
75*2	R	Super lock set output (All door)	Super lock operation (Set)	0 → Battery voltage
76	BR	Door lock actuator unlock (Driver side)	Door lock/unlock switch Unlock operation	0 → Battery voltage
77	L	Door lock actuator lock (ALL Door)	Door lock/unlock switch LOCK operation	0 → Battery voltage
79	Y	BAT power supply (fusible link) (Power window)	—	Battery voltage

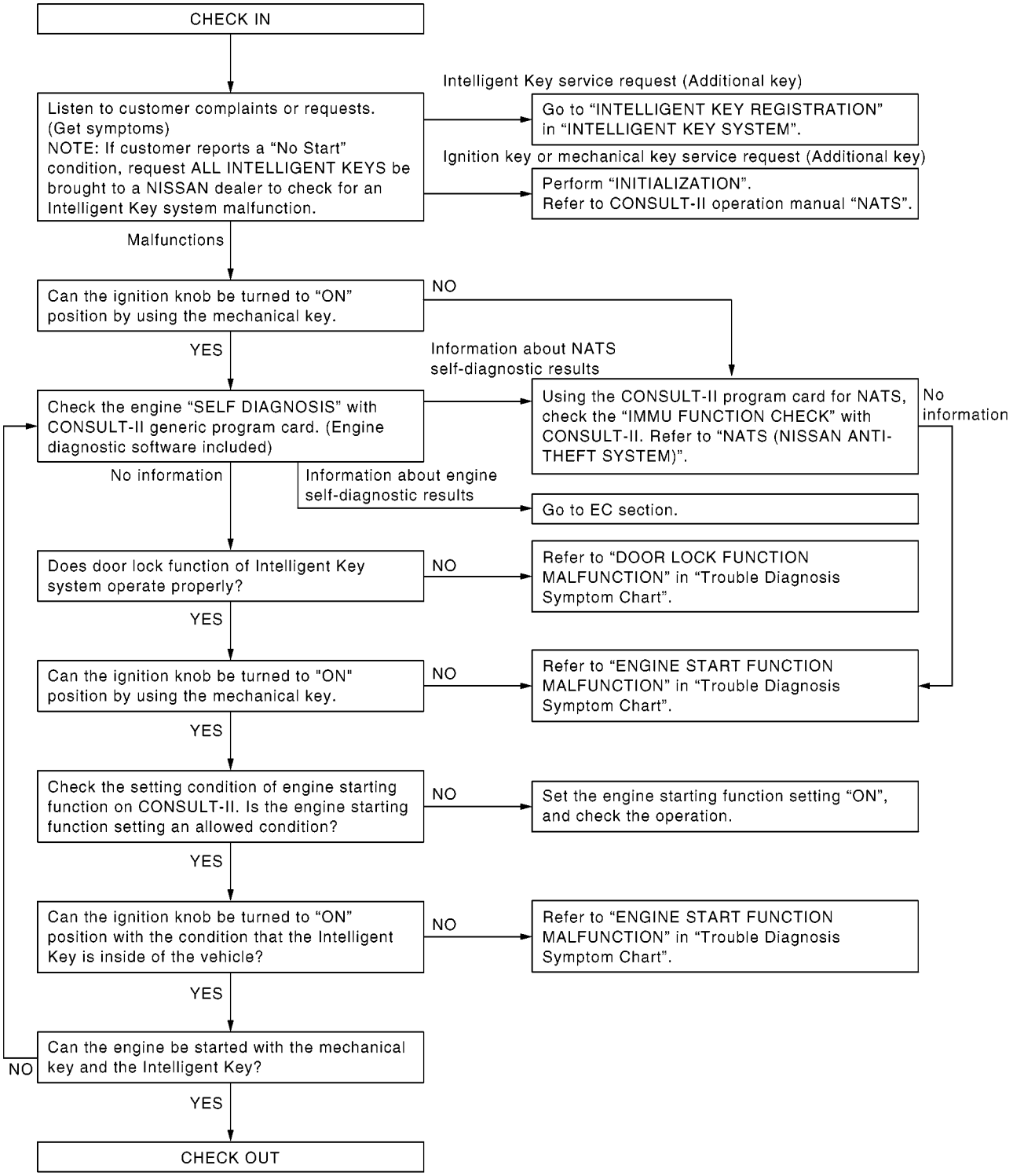
*1 : In the state that answer back operates

*2 : Only the model equipped with super lock system (RHD Models)

Diagnosis Procedure

EIS004MN

WORK FLOW



MIIB0488E

CONSULT-II Function (INTELLIGENT KEY)

EIS004MP

- CONSULT-II has display and inspection functions for work support, self-diagnosis, data monitor, and control unit part number by combining data reception and command transmission via communication lines from the Intelligent Key unit.

Part to be diagnosed	Inspection Item, Diagnosis Mode	Description
Intelligent Key	WORK SUPPORT	● Performs Intelligent Key-ID registration, check, and deletion. ● Performs steering lock unit ID registration. ● Changes settings for each function (ON/OFF).
	SELF-DIAG RESULTS	Intelligent Key unit performs CAN communication diagnosis.
	DATA MONITOR	Displays Intelligent Key unit input data in real time.
	CAN DIAG SUPPORT MNTR	The results of transmit/receive diagnosis of CAN communication can be read.
	ACTIVE TEST	Sends drive signals door lock actuator, buzzer or combination meter to perform operation check.
	ECC PART NUMBER	Displays Intelligent Key unit part No.

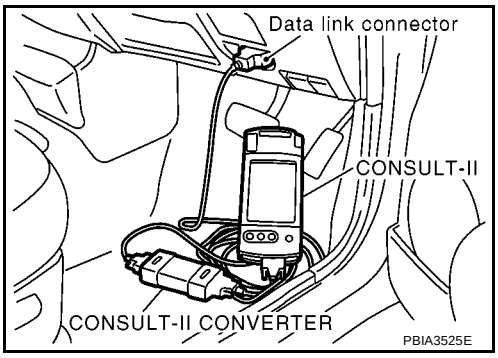
CONSULT-II Inspection Procedure

EIS00564

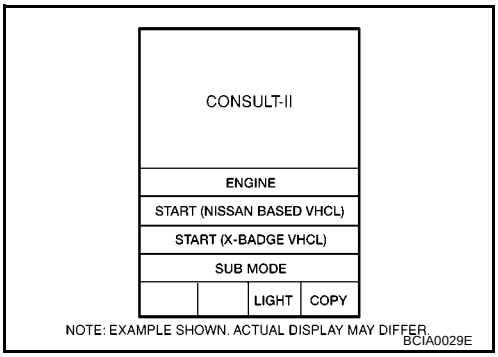
BASIC OPERATION

1. Turn ignition knob to LOCK position.
2. Connect CONSULT-II CONVERTER and CONSULT-II to data link connector.

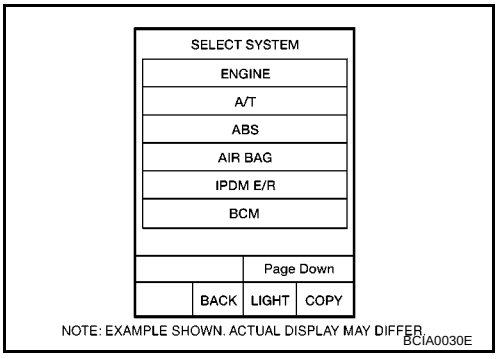
   CAUTION:
   When CONSULT-II is used without connecting CONSULT-II CONVERTER, a malfunction may be detected by self-diagnosis in control modules that use CAN Communication.



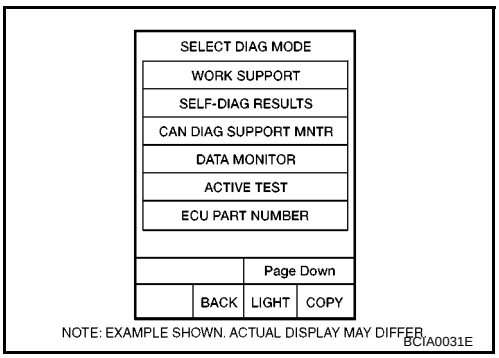
3. Use mechanical key to turn ignition switch to ON.
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “INTELLIGENT KEY” on “SELECT SYSTEM” screen.
   - If “INTELLIGENT KEY” is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Select diagnosis mode. “WORK SUPPORT”, “SELF-DIAG RESULTS”, “DATA MONITOR”, “CAN DIAG SUPPRT MNTR”, “ACTIVE TEST” and “ECU PART NUMBER” are available.



CONSULT-II Application Items

EIS00565

SELF-DIAGNOSTIC RESULTS

In the Intelligent Key unit, the CONSULT-II self-diagnostic results can be used to check for malfunctions in CAN communications.

DATA MONITOR

MAIN SIGNALS Display Item

Monitor item [OPERATION]		Description
PUSH SWITCH	[ON/OFF]	Displays status (Ignition knob switch ON/ignition knob switch OFF) as judged from ignition knob switch signal.
KEY ROT SW	[ON/OFF]	Displays status (Ignition switch ON position: ON/Ignition switch OFF position: OFF) as judged from key rotation detection switch signal.
KEY SW	[ON/OFF]	Displays status (Key inserted: ON/Key removed: OFF) as judged by key switch.
DR REQ SW	[ON/OFF]	Displays status (Operable: ON/Non-operable: OFF) as judged from door request switch (driver side) signal.
AS REQ SW	[ON/OFF]	Displays status (Operable: ON/Non-operable: OFF) as judged from door request switch (passenger side) signal.
BD/TR REQ SW	[ON/OFF]	Displays status (Operable: ON/Non-operable: OFF) as judged from door request switch (back door) signal.
IGN SW	[ON/OFF]	Displays status (Ignition knob ON position: ON/Ignition knob OFF position: OFF) as judged from ignition switch signal.
ACC SW	[ON/OFF]	Displays status (Ignition switch ACC position: ON/Ignition switch OFF position: OFF) as judged from ignition switch signal.
STOP LAMP SW	[ON/OFF]	Displays status (Brake pedal depress: ON/brake pedal not depress: OFF) as judged from stop lamp switch signal.
P RANGE SW*	[ON/OFF]	Displays status from park/neutral position switch ON/OFF condition.
BD OPEN SW	[ON/OFF]	Displays status (Back door open: ON/Back door closed: OFF) as judged from back door opener switch signal.

*: With A/T models only.

ACTIVE TEST

Monitor item	Description
DOOR LOCK/UNLOCK	This test is able to check all door lock actuators lock operation. These actuators lock when “ON” on CONSULT-II screen is touched.
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. The buzzer will be activated on when “ON” on CONSULT-II screen is touched.
INSLDE BUZZER	This test is able to check buzzer (bultin combination meter) operation. The buzzer will be activated on when “ON” on CONSULT-II screen is touched.
INDICATOR	This test is able to check warning lamp operation. The lamp will be turned on when “ON” on CONSULT-II screen is touched.

WORK SUPPORT

Monitor item	Description
INTELLI KEY WARNING	The condition of warning system can be changed.
LOW BATTERY WARNING	The condition of low battery warning system can be changed.
INTELLI KEY FUNCTION	The all of Intelligent Key system functions can be changed.
SELSCTIVE UNLOCK	The condition of select unlock function can be changed.
ANTIKEY LOCK IN	The condition of Intelligent Key lock-in prevention function can be changed.
FLASH WITH REMOTE AND KEY	The condition of ignition key warning function can be changed.
ANSWER BACK WITH I-KEY LOCK	The condition of ignition key warning function (LOCK) can be changed.
ANSWER BAKE WITH I-KEY UNLOCK	The condition of ignition key warning function (UNLOCK) can be changed.
AUTO RELOCK TIMER	Auto locking function mode can be changed in this mode. The function mode will be changed when.
ENG START BY I-KEY	The condition of engine start function can be changed.
LOCK/UNLOCK BY I-KEY	The condition of door lock function can be changed.
FOR TAKE OUT WARN TRIGGER	The condition of Intelligent Key take out warn trigger can be changed.

List of Operation Related Parts

EIS004MQ

Parts marked with × are the parts related to operation.

Will not operate if there is a malfunction in the area where there is a ×.	Intelligent Key	key switch	Ignition knob switch	ACC switch	Ignition switch	Door switch	Door request switch	Inside key antenna	Door antenna	Intelligent Key unit	CAN system	BCM	Combination meter	Stop lamp switch
Door lock/unlock operation using Intelligent Key remote controller button operation	×	×	×			×				×	×	×		
Door lock/unlock operation using door request switch operation	×	×	×			×	×	×	×	×	×	×		
Door lock/unlock operation using mechanical key												×		
Ignition knob rotation permission using Intelligent Key	×	×	×					×		×			×	
Engine start using Intelligent Key	×				×			×		×	×	×		×
Engine start using mechanical key				×	×						×	×		×
Ignition switch return forgotten warning			×	×	×	×				×		×	×	
Ignition key warning (when using mechanical key)		×									×	×	×	
Ignition switch OFF position warning (for inside car: when door closed)			×	×	×					×	×		×	
Ignition switch OFF position warning (for outside car: when door opened/closed)	×		×	×	×	×				×	×	×		
Warning for removal of Intelligent Key to outside the car (when door open/closed)	×		×			×		×		×	×	×	×	
Warning for removal of Intelligent Key to outside the car (from window)	×		×			×		×		×	×		×	
Door lock non-operation warning	×		×			×	×	×		×	×	×		
Intelligent key low battery warning	×				×					×	×		×	

Trouble Diagnosis Symptom Chart

EIS004MR

ALL FUNCTIONS OF THE INTELLIGENT KEY ARE NOT OPERATING

Symptom	Diagnoses service procedure	Refer to page
“KEY” and “LOCK” warning lamps in combination meter do not light up at all.	1. Check Intelligent Key unit power supply and ground circuit	BL-191
	2. Check CAN communication	BL-191
	3. Replace Intelligent Key unit.	—
“KEY” and “LOCK” warning lamps in combination meter turn on, but doors cannot be locked/ unlocked or the engine starter using Intelligent Key.	1. Use CONSULT-II to check if the Intelligent Key has been registered.	BL-158
	2. Use CONSULT-II setting change function to check if Intelligent Key system has been cancelled.	BL-158
	3. Intelligent Key inspection	BL-202
	4. Replace Intelligent Key unit.	BL-202

REMOTE CONTROL ENTRY FUNCTION MALFUNCTION

Symptom	Diagnoses service procedure	Refer to page
Door lock/unlock does not operate (other functions normal) when Intelligent Key remote controller button is operated.	1. Intelligent Key inspection	BL-202
	2. Check key switch	BL-191
	3. Check ignition knob switch	BL-193
	4. Check door switch	BL-143
	5. Replace Intelligent Key unit.	—

DOOR LOCK FUNCTION MALFUNCTION

Before conducting the diagnosis in the following table, check all power door lock system function. Refer to BL-15, "POWER DOOR LOCK SYSTEM" .

Symptom	Diagnoses service procedure	Refer to page
Door lock/unlock does not operate when door request switch operation is used (operates when Intelligent Key remote controller button is operated).	1. Check door request switch	BL-194
	2. Check outside antenna	BL-197
	3. Intelligent Key inspection	BL-202
	4. Replace Intelligent Key unit.	BL-202
Door lock/unlock do not operate using door request switch and Intelligent Key remote controller button operation (power door lock system is normal).	1. Check door switch	BL-143
	2. Check key switch	BL-191
	3. Check ignition knob switch	BL-193
	4. Replace Intelligent Key unit.	BL-202
Hazard lamps do not flash during door lock operation using door request switch and Intelligent Key remote controller button operation. (Turn signal lamp operation is normal.)	Replace Intelligent Key unit.	BL-202
Hazard lamps do not flash during door lock operation using door request switch and Intelligent Key remote controller button operation. (Turn signal lamps do not operate.)	Conduct turn signal lamp inspection.	LT-121
Intelligent Key warning buzzer does not sound during door lock/unlock operation using Intelligent Key (regardless of whether Intelligent Key remote controller button or request switch operation is used).	1. Check if the operation confirmation Intelligent Key warning buzzer was cancelled by the CONSULT-II settings change function.	BL-158
	2. Check Intelligent Key warning buzzer	BL-196
	3. Replace Intelligent Key unit.	BL-202
Door lock/unlock operation confirmation Intelligent Key warning buzzer sounds, but door lock actuator does not operate. (And hazard lamps do not flash.)	1. Check CAN communication	BL-191
	2. Replace Intelligent Key unit.	BL-202

ENGINE START FUNCTION MALFUNCTION

Intelligent Key Operation Inspection

Symptom		Diagnoses service procedure	Refer to page
Ignition knob can not turn	This lights up KEY warning lamp on combination meter in red when ignition knob is pressed. (door lock functions normal)	1. Intelligent Key inspection.	BL-202
		2. Check inside key antenna	BL-198
		3. Replace Intelligent Key unit.	BL-202
	This lights up KEY warning lamp on combination meter in green when ignition knob is pressed.	1. Ignition knob switch system	BL-193
		2. Steering lock unit system	BL-199
		3. Intelligent Key unit power supply and ground circuit system	BL-191
		4. Replace Intelligent Key unit.	BL-202
	Ignition knob turns even without both Intelligent Key and mechanical key.	Replace steering lock unit.	—
	Security indicator will still flash when ignition knob is pressed.	1. Check key switch	BL-191
		2. Replace Intelligent Key unit.	BL-202
	Security indicator does not flash with ignition knob released at LOCK position. (push switch OFF)	1. CAN communication system	BL-191
		2. Ignition knob switch system	BL-193
		3. Intelligent Key unit power supply and ground circuit system	BL-191
		4. Inspect combination meter (warning lamp).	BL-235

Mechanical Key Operation Inspection

Symptom		Diagnoses service procedure	Refer to page
Ignition knob can not turn	Security indicator remains flashing with mechanical key inserted.	1. Check key switch.	BL-191
		2. Replace Intelligent Key unit.	BL-202
	KEY indicator and security indicator does not flashing with mechanical key inserted.	1. Check stop lamp switch	BL-201
		2. Replace Intelligent Key unit	BL-202

WARNING CHIME FUNCTION MALFUNCTION

Before conducting the diagnosis in the following table, check “key reminder function” with power door lock system.

Symptom	Diagnoses service procedure	Refer to page
Ignition knob OFF position warning chime (for inside vehicle) does not sound. (Ignition key warning chime operates)	1. Check CAN communication	BL-191
	2. Check ignition knob switch	BL-193
	3. Check key switch	BL-191
	4. Replace Intelligent Key unit.	BL-202
Ignition key warning chime is inoperative. (When mechanical key used)	1. Check CAN communication	BL-191
	2. Check key switch	BL-191
	3. Check door switch	BL-143
	4. Inspect combination meter (warning).	DI-25
	5. Replace Intelligent Key unit	BL-202

Symptom	Diagnoses service procedure	Refer to page
Ignition knob OFF position warning chime (for outside vehicle: after door open/closed) does not sound.	1. Check CAN communication	BL-191
	2. Check ignition knob switch	BL-193
	3. Check door switch system	BL-143
	4. Check Intelligent Key warning buzzer	BL-196
	5. Replace Intelligent Key unit.	BL-202
Intelligent Key take out warning chime (when door open/closed) does not sound.	1. Check CAN communication	BL-191
	2. Intelligent Key inspection	BL-202
	3. Check ignition knob switch	BL-193
	4. Check door switch system	BL-143
	5. Check Intelligent Key warning buzzer	BL-196
	6. Replace Intelligent Key unit.	BL-202
Intelligent Key take out warning chime (when door opened/closed) sounds even though Intelligent Key is in vehicle.	1. Check inside key antenna	BL-198
	2. Intelligent Key inspection	BL-202
	3. Replace Intelligent Key unit.	BL-202
Intelligent Key take out warning chime (through window) does not sound	1. Check if Intelligent Key removal warning (take out from window) was canceled by CONSULT-II settings change function.	BL-158
	2. Check CAN communication	BL-191
	3. Intelligent Key inspection	BL-202
	4. Check ignition knob switch	BL-193
	5. Replace Intelligent Key unit.	BL-202
Intelligent Key take out warning chime (through window) sounds even though Intelligent Key is in vehicle.	1. Check inside key antenna	BL-198
	2. Intelligent Key inspection	BL-202
	3. Replace Intelligent Key unit.	BL-202
Door lock non-operation warning does not sound.	**Intelligent Key warning chime does not sound**	
	1. Intelligent Key inspection	BL-202
	2. Check door request switch	BL-194
	3. Check inside key antenna	BL-198
	4. Check Intelligent Key warning buzzer	BL-196
	5. Replace Intelligent Key unit.	BL-202
	Ignition knob OFF position warning chime does not sound	
	1. Intelligent Key inspection	BL-202
	2. Check door request switch	BL-194
	3. Check outside antenna	BL-197
	4. Check Intelligent Key warning buzzer	BL-196
	5. Check ignition knob switch	BL-193
	6. Replace Intelligent Key unit.	BL-202
	Door ajar alarm	
	1. Check CAN communications	BL-191
	2. Check door request switch	BL-194
	3. Check outside antenna	BL-197
	4. Check Intelligent Key warning buzzer	BL-196
	5. Check door switch	BL-143
	6. Intelligent Key inspection	BL-202
	7. Replace Intelligent Key unit.	BL-202

Check CAN Communication System

EIS004MS

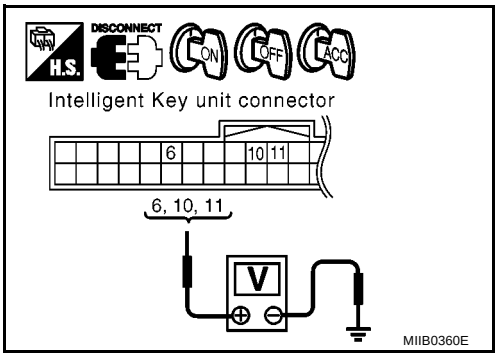
Go to LAN-4, "Precautions When Using CONSULT-II" .

Check Intelligent Key Unit Power Supply and Ground Circuit

EIS004MT

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition knob OFF position.
2. Disconnect Intelligent Key unit connector M51 and measure the connector terminal (+) and ground (-) shown in the following table.



Terminal (wire color)	Signal Designation	Ignition switch	Standard voltage (V)
6 (W)	Ignition power supply	ON	Battery voltage
10 (L)	ACC power supply	ACC	Battery voltage
11 (BR)	Battery power supply	OFF	Battery voltage

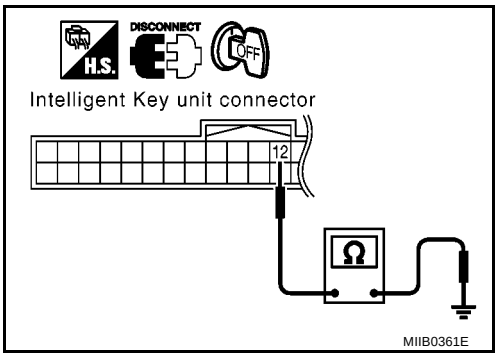
OK or NG

OK >> GO TO 2.
NG >> Repair or replace Intelligent Key power supply circuit.

2. CHECK GROUND CIRCUIT

Check continuity between Intelligent Key unit connector M51 terminal 12 and ground.

12 (B) - Ground : Continuity should exist.



OK or NG

OK >> Power supply and ground circuits are normal.
NG >> Repair or replace the Intelligent Key unit ground circuit.

Check Key Switch

EIS004MV

1. KEY SWITCH INSPECTION

With CONSULT-II

Display “KEY SW” on DATA MONITOR screen, and check if ON-OFF display is linked to insertion of mechanical key in ignition knob.

When key is inserted in ignition knob : ON
When key is removed in ignition knob : OFF

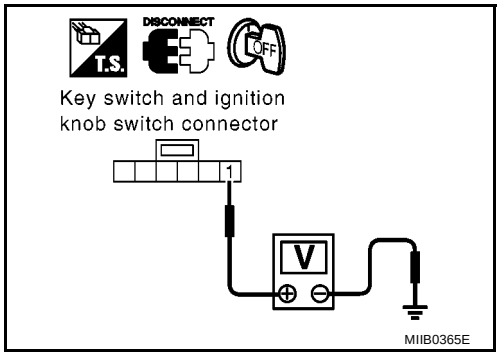
OK or NG

OK >> Key switch is OK.
NG >> GO TO 2.

2. KEY SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Remove mechanical key from ignition knob.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch connector M34 terminal 1 and ground.

1 (W) - Ground : Approx. 12V



OK or NG

OK >> GO TO 3.
NG >> Repair or replace key switch power supply circuit.

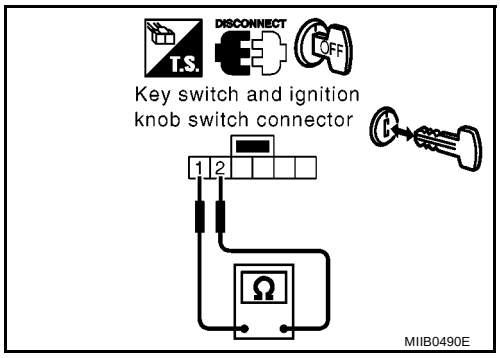
3. KEY SWITCH OPERATION INSPECTION

1. Insert mechanical key into ignition knob.
2. Check continuity between key switch and ignition knob switch connector M34 terminal 1 and 2.

1 - 2

Insert mechanical key into ignition knob. : Continuity should exist.

Remove mechanical key from ignition knob. : Continuity should not exist.



OK or NG

OK >> GO TO 4.
NG >> Replace key switch.

4. KEY SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M51 terminal 27 and key switch and ignition knob switch connector M34 terminal 2.

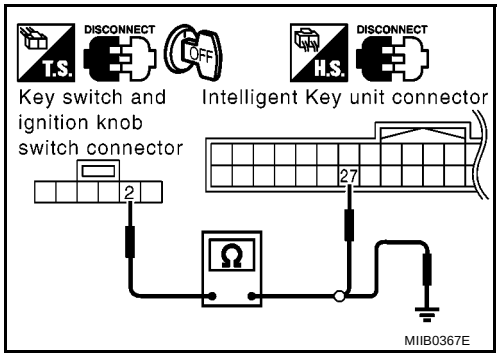
27 (P) - 2 (P) : Continuity should exist.

3. Check continuity between key switch connector M34 terminal 2 and ground.

2 (P) - Ground : Continuity should exist.

OK or NG

OK >> Key switch is OK.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.



Check Ignition Knob Switch

EIS004MX

1. IGNITION KNOB SWITCH INSPECTION

With CONSULT-II

Display “PUSH SW” on DATA MONITOR screen, and check if ON/OFF display is linked to ignition knob operation.

Press ignition knob.	**: ON**
Return ignition knob (remove hands).	**: OFF**

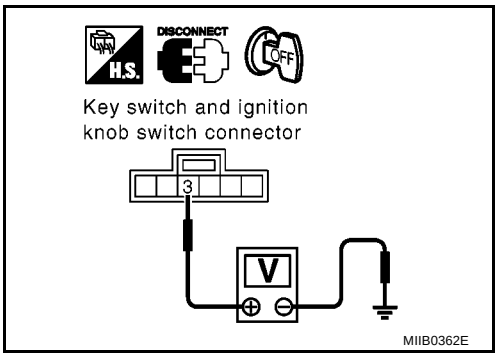
OK or NG

OK >> Ignition knob switch is OK.
NG >> GO TO 2.

2. IGNITION KNOB SWITCH POWER SUPPLY CIRCUIT INSPECTION

1. Turn ignition knob LOCK position.
2. Disconnect key switch and ignition knob switch connector.
3. Check voltage between key switch and ignition knob switch connector M34 terminal 3 and ground.

3 (BR) - Ground : Approx. 12V



OK or NG

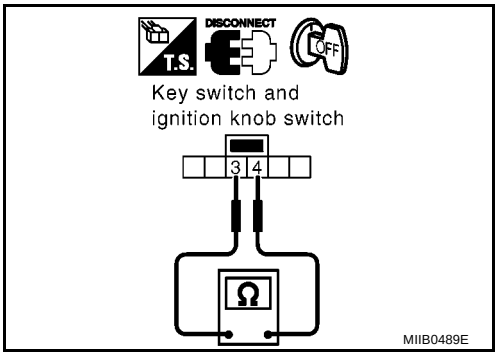
OK >> GO TO 3.
NG >> Repair or replace key switch and ignition knob switch power supply circuit.

3. IGNITION KNOB SWITCH OPERATION INSPECTION

Check continuity between key switch and ignition knob switch connector M34 terminal 3 and 4.

3- 4

Press ignition knob.	**: Continuity should exist.**
Return ignition knob (remove hands).	**: Continuity should not exist.**



OK or NG

OK >> GO TO 4.
NG >> Replace key switch and ignition knob switch.

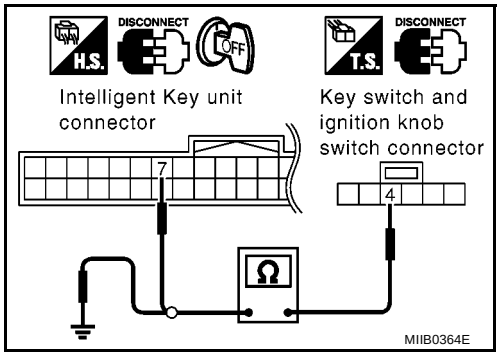
4. IGNITION KNOB SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M51 terminal 7 and key switch and ignition knob switch connector M34 terminal 4.

7 (GY) - 4 (GY) : Continuity should exist.

3. Check continuity between key switch and ignition knob switch connector terminal 4 and ground.

4 (GY) - Ground : Continuity should not exist.



OK or NG

OK >> Replace Intelligent Key unit.
NG >> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.

Check Door Request Switch

EIS004MY

1. DOOR REQUEST SWITCH INSPECTION

With CONSULT-II

Display “DR REQ SW” (driver door), “AS REQ SW” (passenger door) and “BD/TR REQ SW” (back door) on DATA MONITOR screen, and check if ON-OFF display is linked to door request switch operation.

Press door request switch. : ON
Release door request switch. : OFF

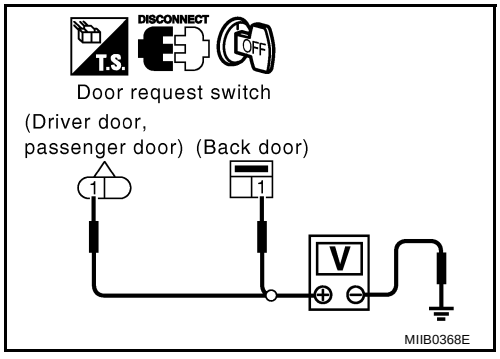
OK or NG

OK >> Door request switch is OK.
NG >> GO TO 2.

2. DOOR REQUEST SWITCH SIGNAL INSPECTION

1. Turn ignition knob LOCK position.
2. Disconnect door request switch connector.
3. Check voltage between door request switch connector D10 (driver door), D39 (passenger door), B54 (back door) terminal 1 and ground.

Driver 1 (OR) - Ground : Approx. 5V
Passenger 1 (LG) - Ground : Approx. 5V
Back door 1 (R) - Ground : Approx. 5V



OK or NG

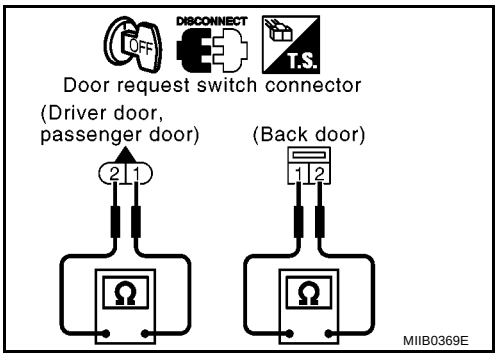
OK >> GO TO 3.
NG >> GO TO 5.

3. DOOR REQUEST SWITCH OPERATION INSPECTION

Check continuity between door request switch connector D10 (driver door), D39 (passenger door), B54 (back door) terminal 1 and 2.

1 - 2

Press door request switch.	**: Continuity should exist.**
Return door request switch.	**: Continuity should not exist.**



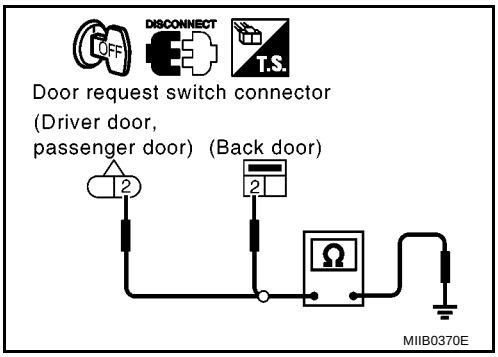
OK or NG

OK >> GO TO 4.
NG >> Replace door request switch.

4. DOOR REQUEST SWITCH GROUND CIRCUIT INSPECTION

Check continuity between door request switch connector 2 and ground.

2 (B) - Ground : Continuity should exist.



OK or NG

OK >> GO TO 5.
NG >> Repair or replace door request switch ground circuit.

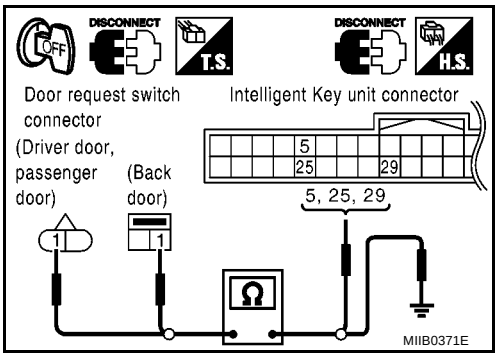
5. DOOR REQUEST SWITCH CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M51 terminals 5 (driver door), 25 (passenger door), and 29 (back door) and door request switch connector D10 (driver door), D39 (passenger door), B54 (back door) terminal 1.

Driver	**5 (OR) - 1 (OR)**	**: Continuity should exist.**
Passenger	**25 (LG) - 1 (LG)**	**: Continuity should exist.**
Back door	**29 (R) - 1 (R)**	**: Continuity should exist.**

3. Check continuity between door request switch connector D10 (driver door), D39 (passenger door), B54 (back door) terminal 1 and ground.

1 - Ground : Continuity should not exist.



OK or NG

OK >> Replace Intelligent Key unit.
NG >> Repair or replace harness between Intelligent Key unit and door request switch.

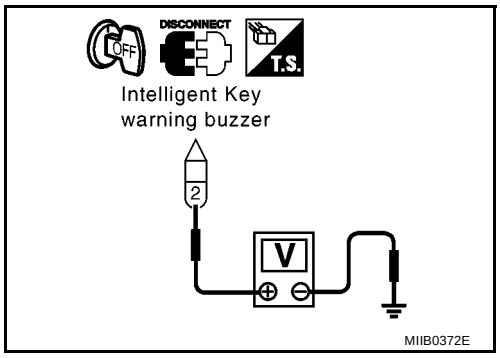
Check Intelligent Key Warning Buzzer

EIS004N1

1. INTELLIGENT KEY WARNING BUZZER POWER SUPPLY CIRCUIT INSPECTION

1. Turn ignition knob LOCK position.
2. Remove Intelligent Key warning buzzer connector.
3. Check voltage between Intelligent Key warning buzzer connector D8 terminal 2 and ground.

2 (G) - Ground : Approx. 12V



OK or NG

OK >> GO TO 2.
NG >> Repair or replace Intelligent Key warning buzzer power supply circuit.

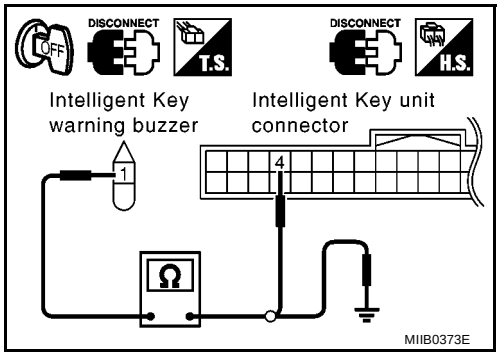
2. INTELLIGENT KEY WARNING BUZZER CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit connector M51 terminal 4 and Intelligent Key warning buzzer connector D8 terminal 1.

4 (P) - 1 (P) : Continuity should exist.

3. Check continuity between Intelligent Key warning buzzer connector D8 terminal 1 and ground.

1 (P) - Ground : Continuity should not exist.



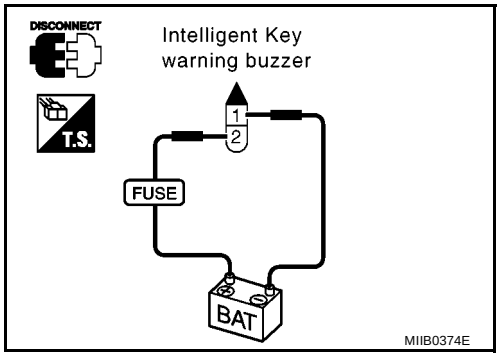
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between Intelligent Key warning buzzer and Intelligent Key unit.

3. INTELLIGENT KEY WARNING BUZZER OPERATION INSPECTION

Connect battery power supply to Intelligent Key warning buzzer connector D8 terminals 1 and 2, and check the operation.

2 (BAT+) - 1 (BAT-) : the buzzer sounds



OK or NG

OK >> Intelligent Key warning buzzer is OK.
NG >> Replace Intelligent Key warning buzzer

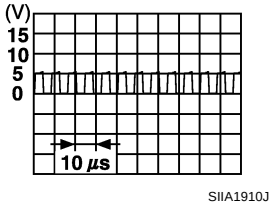
Check Outside Antenna

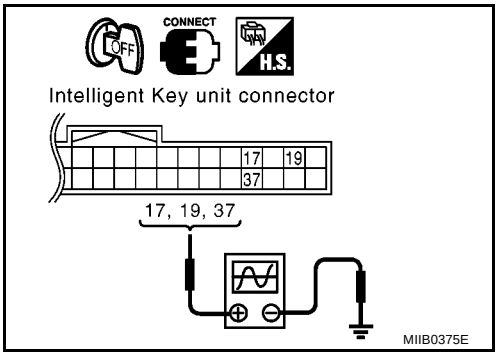
EIS004N2

SMA for VIN >SJN**AK12U1309269

1. OUTSIDE ANTENNA POWER SUPPLY INSPECTION

Operate each door request switch (push), and use an oscilloscope to check voltage waveform of harness between Intelligent Key unit connector M51 terminals 17 (back door), 19 (driver door), and 37 (passenger door) and ground.

Push each door request switch.	
Back door: 17 (LG) - Ground	 SIIA1910J
Driver: 19 (R) - Ground	
Passenger: 37 (BR) - Ground	



MIIB0375E

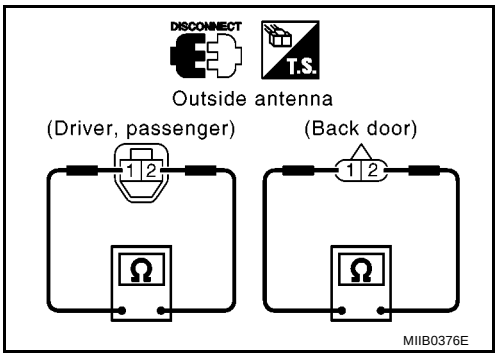
OK or NG

OK >> Outside antenna circuit is OK.
NG >> GO TO 2.

2. OUTSIDE ANTENNA OPERATION INSPECTION

1. Disconnect each door antenna connector.
2. Check continuity between each door antenna connector D11 (driver door), B39 (back door), D40 (passenger door) terminals 1 and 2.

1 - 2 : Continuity should exist.



MIIB0376E

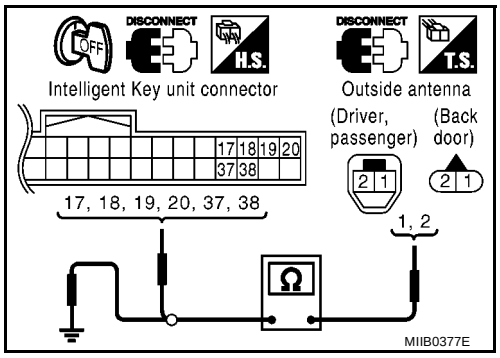
OK or NG

OK >> GO TO 3.
NG >> Replace outside antenna.

3. OUTSIDE ANTENNA CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between each outside antenna connector D11 (driver door), B39 (back door), D40 (passenger door) terminals 1 and 2 and Intelligent Key unit connector M51 terminals 17, 18, 19, 20, 37, and 38.

Back door	**1 (LG) - 17 (LG): Continuity should exist.**
	2 (OR) - 18 (OR): Continuity should exist.
Driver door	**1 (R) - 19 (R): Continuity should exist.**
	2 (W) - 20 (W): Continuity should exist.
Passenger door	**1 (BR) - 37 (BR): Continuity should exist.**
	2 (Y) - 38 (Y): Continuity should exist.



3. Check continuity between each door antenna connector terminals 1 and 2 and ground.

1 - Ground : Continuity should not exist.
2 - Ground : Continuity should not exist.

OK or NG

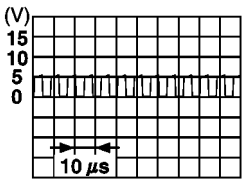
OK >> Replace Intelligent Key unit.
NG >> Replace harness between door antenna and Intelligent Key unit.

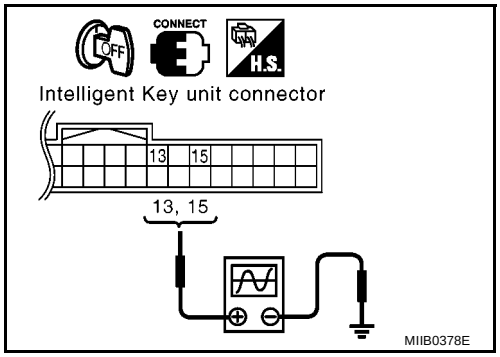
Check Inside Key Antenna

EIS004N3

1. INSIDE KEY ANTENNA POWER SUPPLY CIRCUIT INSPECTION

Operate ignition knob and use an oscilloscope to check voltage waveform between Intelligent Key unit connector M51 terminals 13 (luggage room), 15 (center console) and ground.

Press ignition knob.	
luggage room: 13 (R) - Ground	 SIIA1910J
Center console: 15 (G) - Ground	



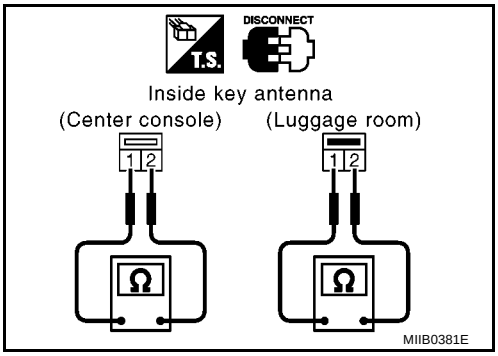
OK or NG

OK >> Inside key antenna circuit is OK.
NG >> GO TO 2.

2. INSIDE KEY ANTENNA OPERATION INSPECTION

1. Disconnect inside key antenna connector.
2. Check continuity between inside key antenna connector B25 (center console), B29 (luggage room) terminals 1 and 2.

1 - 2 : Continuity should exist.



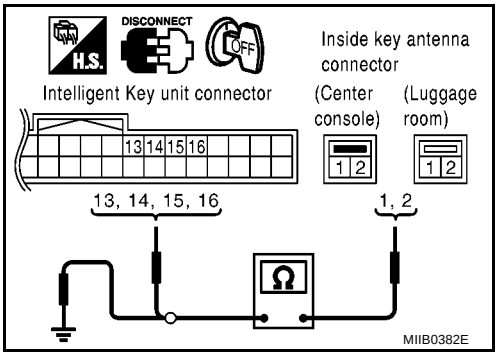
OK or NG

OK >> GO TO 3.
NG >> Replace malfunctioning inside key antenna.

3. INSIDE KEY ANTENNA INSPECTION

1. Disconnect Intelligent Key unit connector.
2. Check continuity between inside key antenna connector B25 (center console), B29 (luggage room) terminals 1 and 2 and Intelligent Key unit connector terminals 13, 14, 15, and 16.

Inside key antenna (luggage room)	**1 (R) - 13 (R): Continuity should exist.**
	2 (BR) - 14 (BR): Continuity should exist.
Inside key antenna (center console)	**1 (G) - 15 (G): Continuity should exist.**
	2 (R) - 16 (R): Continuity should exist.



3. Check continuity between inside key antenna connector B25 (center console), B29 (luggage room) terminals 1 and 2 and ground.

1 (G or R) - Ground : Continuity should not exist.
2 (R or BR) - Ground : Continuity should not exist.

OK or NG

OK >> Replace Intelligent Key unit.
NG >> Repair or replace harness between inside key antenna and Intelligent Key unit.

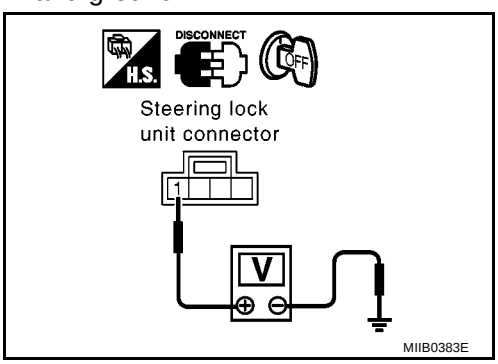
Check Steering Lock Unit

EIS004N4

1. STEERING LOCK UNIT POWER SUPPLY INSPECTION

1. Turn ignition knob LOCK position.
2. Disconnect steering lock unit connector.
3. Check voltage between steering lock unit connector M31 terminal 1 and ground.

1 (BR) - Ground : Approx. 12V



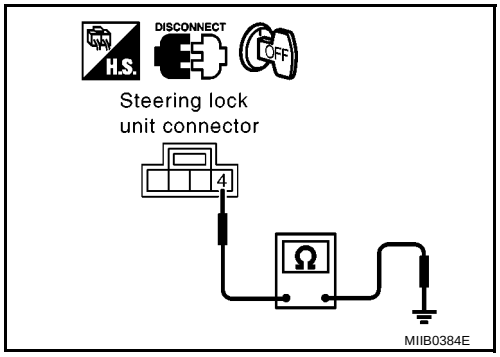
OK or NG

OK >> GO TO 2.
NG >> Repair or replace steering lock unit power supply circuit.

2. STEERING LOCK UNIT GROUND CIRCUIT INSPECTION

Check continuity between steering lock unit connector M31 terminal 4 and ground.

4 (R) - Ground : Continuity should exist.



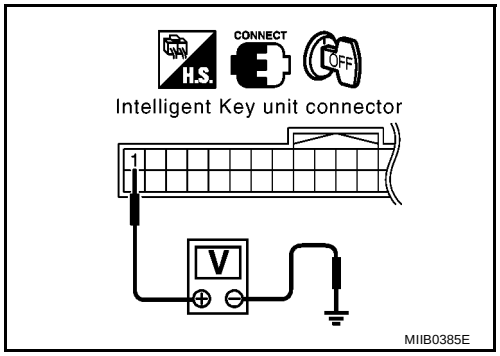
OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

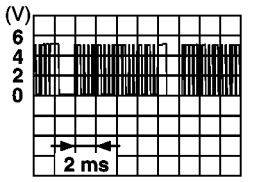
3. STEERING LOCK COMMUNICATION CIRCUIT INSPECTION

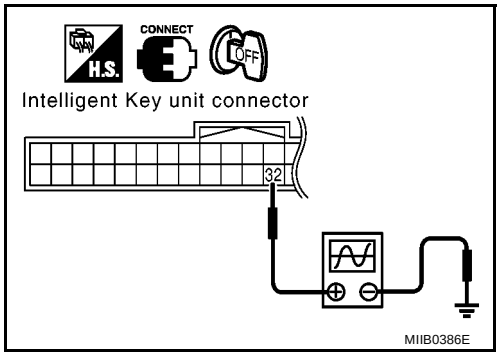
1. Connect steering lock unit connector.
2. Check voltage between Intelligent Key unit connector M51 terminal 1 and ground.

1 (R) - Ground : Approx. 5V



3. Immediately after operating (pushing) ignition knob, use an oscilloscope to check voltage waveform between Intelligent Key unit connector M51 terminal 32 and ground.

Immediately after ignition knob operation (pushing).	
32 (Y) - Ground	



OK or NG

OK >> GO TO 4.
NG >> Replace Intelligent Key unit.

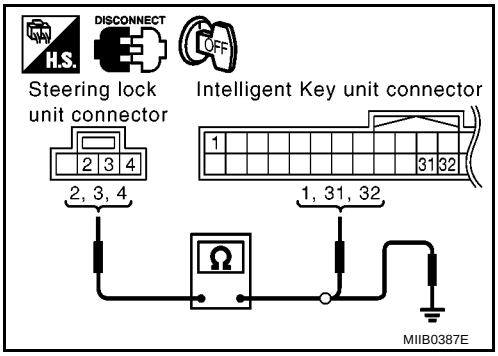
4. STEERING LOCK UNIT COMMUNICATION CIRCUIT INSPECTION

1. Disconnect Intelligent Key unit and steering lock unit connectors.
2. Check continuity between Intelligent Key unit connector M51 terminals 1, 31, and 32 and steering lock unit connector M31 terminals 2, 3, and 4.

1 (R) - 2 (R) : Continuity should exist.
31 (R) - 4 (R) : Continuity should exist.
32 (Y) - 3 (Y) : Continuity should exist.

3. Check continuity between steering lock unit connector M31 terminals 2, 3, 4 and ground.

2 (R) - Ground : Continuity should not exist.
3 (Y) - Ground : Continuity should not exist.
4 (R) - Ground : Continuity should not exist.



OK or NG

OK >> Replace steering lock unit.
- After replacing steering lock unit, Refer to BL-158, "STEERING LOCK UNIT REGISTRATION" .

NG >> Repair or replace harness between steering lock unit and Intelligent Key unit.

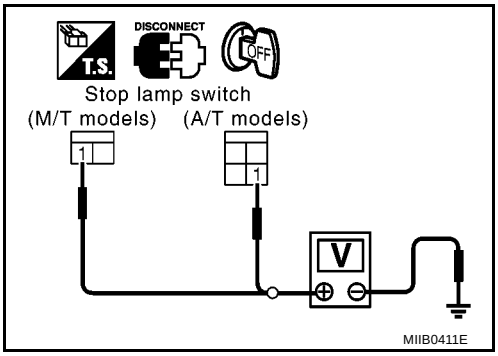
Check Stop Lamp Switch

EIS0055H

1. STOP LAMP SWITCH POWER SUPPLY CIRCIT INAPECTION

1. Check stop lamp switch connector.
2. Check voltage between stop lamp switch connector E108 (LHD models with M/T), E109 (LHD models with A/T), M202 (RHD models with M/T), M203 (RHD models with A/T) terminal 1 and ground.

1 and ground : Approx. 12V



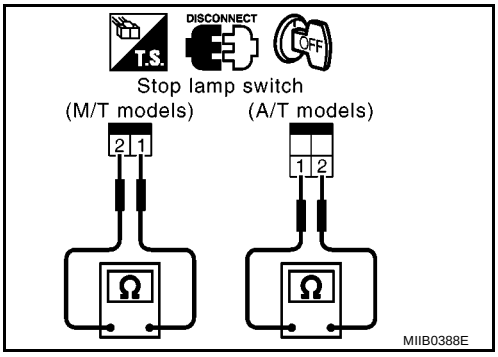
OK or NG

OK >> GO TO 2.
NG >> Repair or replace harness between Intelligent Key unit and stop lamp switch.

2. STOP LAMP SWITCH OPERATION INSPECTION

Check continuity between stop lamp switch connector E108 (LHD models with M/T), E109 (LHD models with A/T), M202 (RHD models with M/T), M203 (RHD models with A/T) terminal 1 and 2.

1 - 2
Brake pedal depressed : Continuity should exist.
Brake pedal not depressed : Continuity should not exist.



OK or NG

OK >> GO TO 3.
NG >> Replace stop lamp switch.

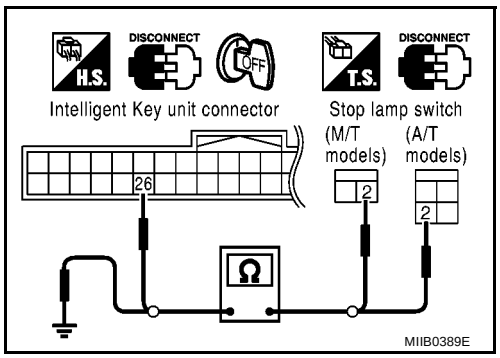
3. STOP LAMP SWITCH GROUND CIRCIT INSPECTION

1. Check continuity between stop lamp switch connector E108 (LHD models with M/T), E109 (LHD models with A/T), M202 (RHD models with M/T), M203 (RHD models with A/T) terminal 2 and Intelligent Key unit connector M51 terminal 26.

2 (Y) - 26 (PU) : Continuity should exist.

2. Check continuity between stop lamp switch connectorE108 (LHD models with M/T), E109 (LHD models with A/T), M202 (RHD models with M/T), M203 (RHD models with A/T) terminal 2 and ground.

2 (Y) - Ground : Continuity should not exist.



OK or NG

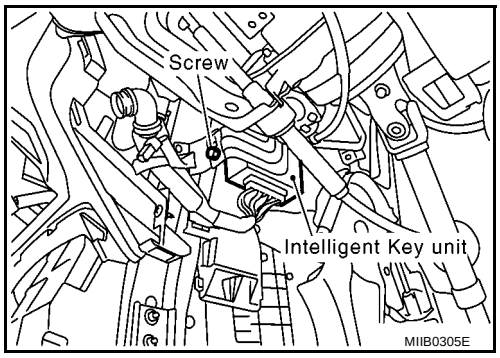
OK >> Stop lamp switch is OK.
NG >> Repair or replace harness.

Removal and Installation of Intelligent key unit

EIS0055J

REMOVAL

1. Remove the instrument lower driver panel. Refer to IP-5, "Removal and Installation" .
2. Disconnect the Intelligent Key unit connector, remove the screw and Intelligent Key unit.



INSTALLATION

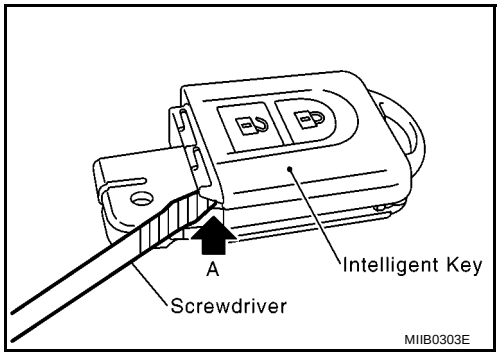
Install in the reverse order of removal.

Intelligent Key Inspection

EIS004N5

INTELLIGENT KEY DISASSEMBLY AND ASSEMBLY

1. Remove Intelligent Key cover.
2. Insert a thin screwdriver wrapped with tape into Area A and then separate lower and upper cases while twisting screwdriver.



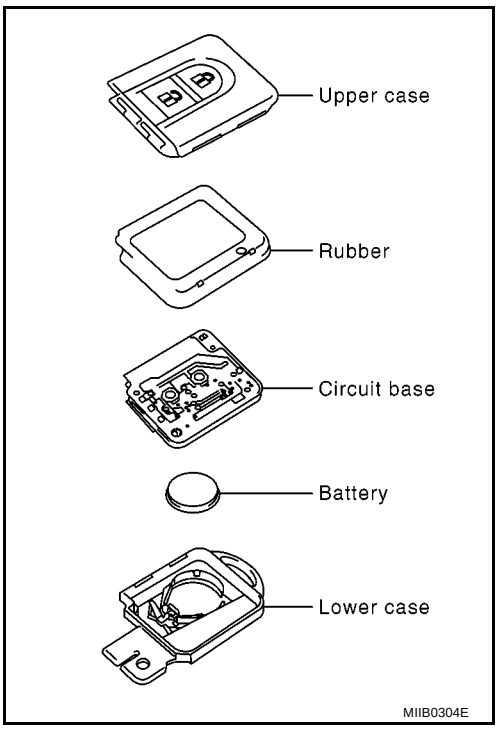
3. When replacing the circuit board or rubber
   - Remove the circuit board assembly from the upper case. (Substrate assembly: circuit board + rubber)
   - Gently press the rubber and remove the circuit board.

   CAUTION:
   Be careful not to touch the printed circuits directly.
4. When replacing the battery
   - Remove the battery from the lower case and replace it.

   Battery replacement : Coin-shaped lithium battery 3V (CR2032)

   CAUTION:
   When replacing battery, be sure to keep dirt, grease, and other foreign materials off the electrode contact area.
5. After replacement, assemble the upper and lower cases by engaging the hooks on their circumference while being careful not to pinch the rubber, etc.

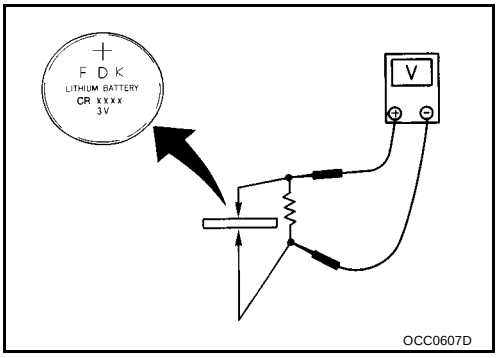
   CAUTION:
   After replacing the battery, check to make sure all Intelligent Key functions work normally.



REMOTE CONTROLLER BATTERY INSPECTION

Check by connecting a resistance (approximately 300Ω) so that the current value becomes about 10 mA.

Standard : Approx. 2.5V - 3.0V

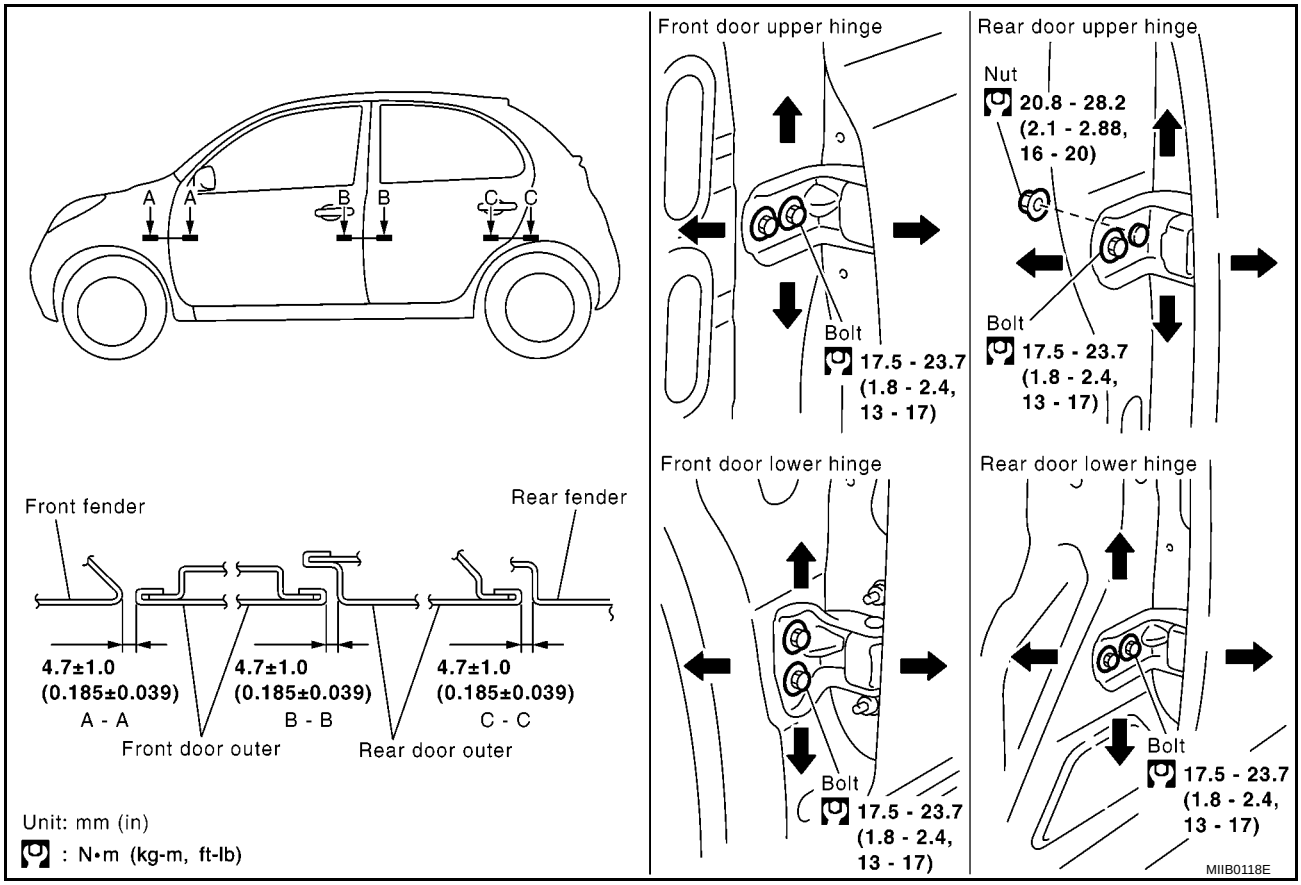


DOOR

PFP:80100

Fitting Adjustment (5-Door Vehicles)

EIS004N6



FRONT DOOR

Longitudinal Gap and Front End Height Difference Adjustment

1. Remove front fender. Refer to BL-14, "Removal and Installation" .
2. Loosen the hinge bolts on body, then lift the rear end of front door to adjust the clearance and surface difference properly.

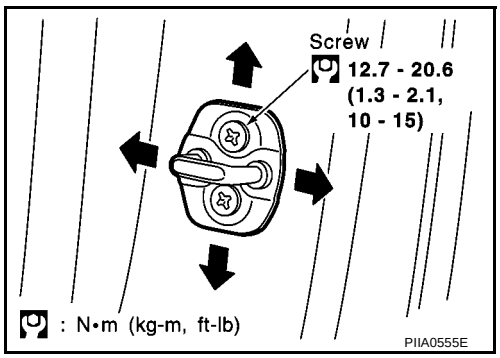
REAR DOOR

Longitudinal Gap and Front End Height Difference Adjustment

1. Remove center pillar upper garnish and center pillar lower garnish. Refer to EI-19, "Removal and Installation (5-Door)" .
2. Working from inside and outside vehicle, loosen bolts and nuts, and then open rear door, and adjust while raising rear door by rear edge.

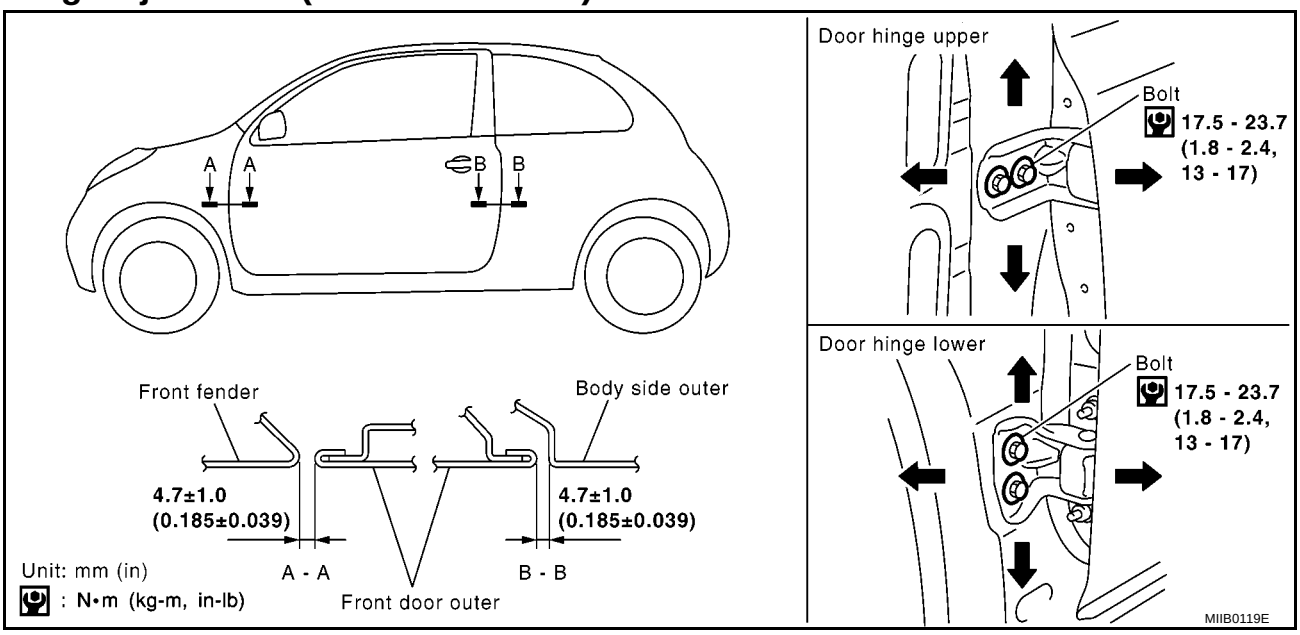
STRIKER ADJUSTMENT

Adjust the striker so that it becomes parallel with the lock inserting direction.



Fitting Adjustment (3-Door Vehicles)

EIS004N7



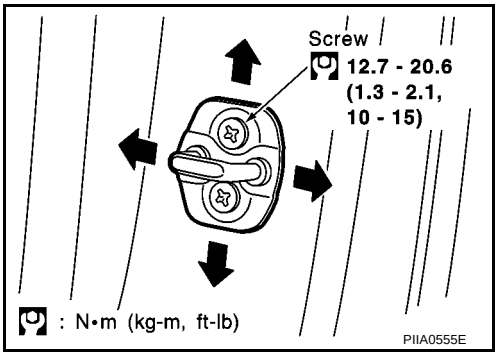
FRONT DOOR

Longitudinal Gap and Front End Height Difference Adjustment

1. Remove front fender. Refer to BL-14, "Removal and Installation" .
2. Loosen the hinge bolts on body, then lift the rear end of front door to adjust the clearance and surface difference properly.

STRIKER ADJUSTMENT

Adjust the striker so that it becomes parallel with the lock inserting direction.



Removal and Installation

EIS004N8

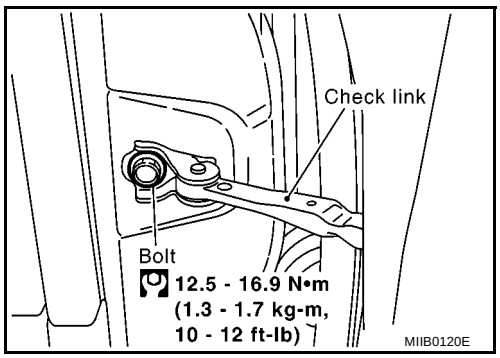
CAUTION:

- **During removal and installation of the door assembly, use a jack to support the door. Place a shop cloth or other suitable material onto the jack plate to protect the door and body from damage.**
- **After removal and installation of the door assembly, always adjust the fit.**
- **Check hinge rotating part for poor lubrication. If necessary, apply “Body Grease”.**

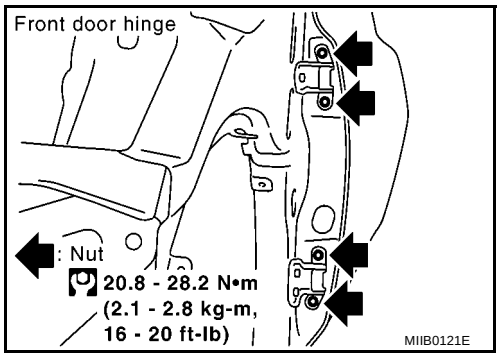
FRONT DOOR

1. Remove front door finisher. Refer to EI-16, "Removal and Installation" .
2. Remove door window. Refer to GW-69, "Removal and Installation" .
3. Remove connectors and harness clamps in front door, and then pull out harness from front door.

4. Remove check link bolts.

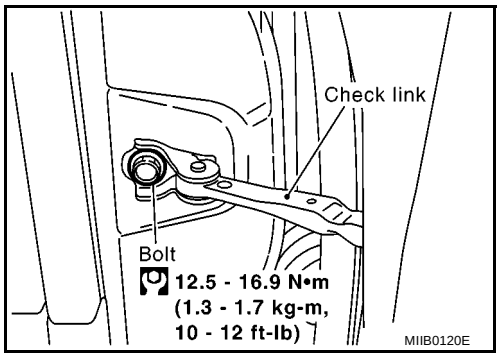


5. Remove hinge nuts on the door and then the door assembly. Install in the reverse order of removal.

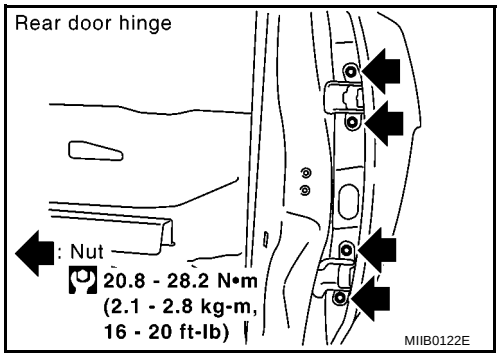


REAR DOOR

1. Remove rear door finisher. Refer to EI-16, "Removal and Installation" .
2. Remove door window. Refer to GW-72, "Removal and Installation" .
3. Remove connectors and harness clamps from rear door and then pull out harness from rear door.
4. Remove check link bolts.



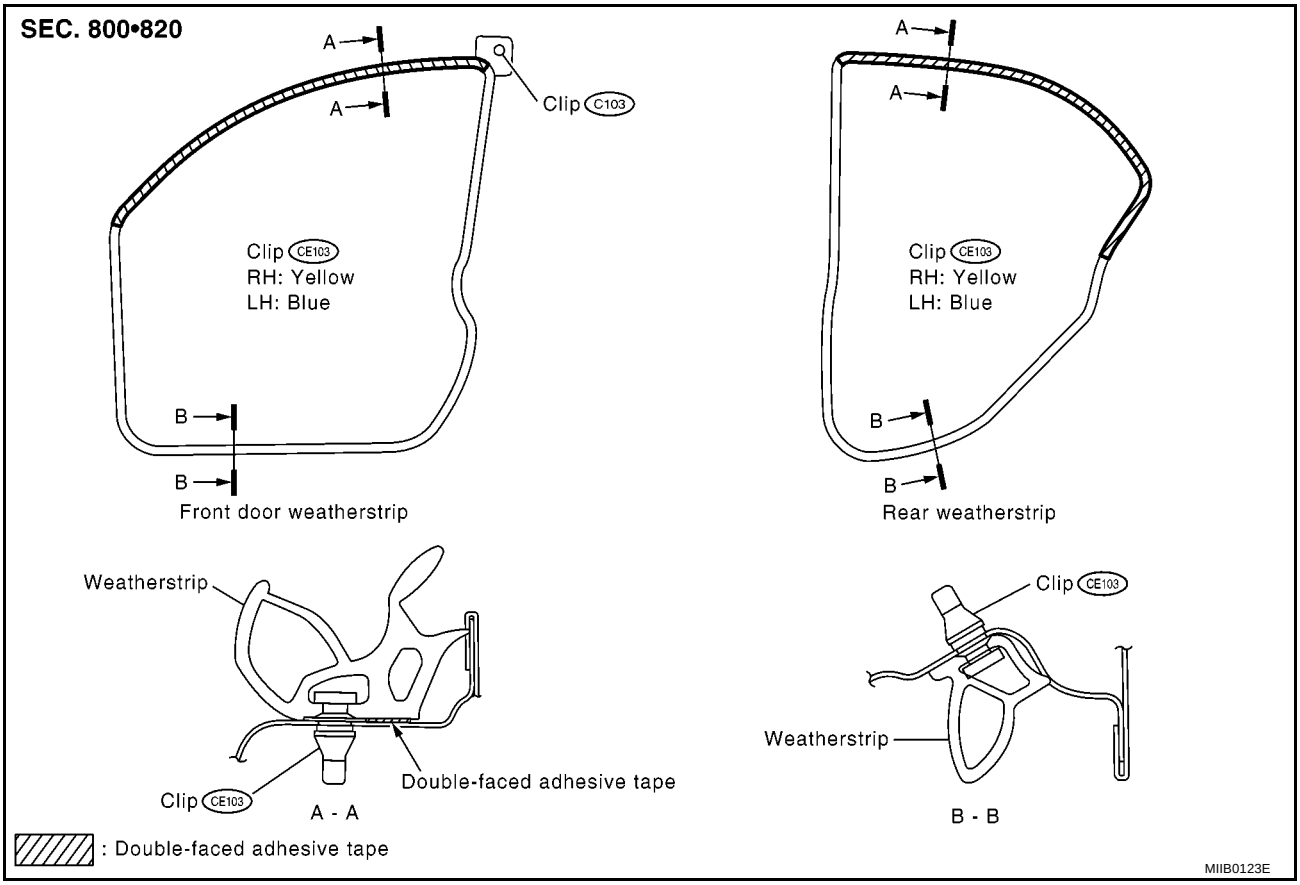
5. Remove hinge nuts on the door and then the door assembly. Install in the reverse order of removal.



Door Weatherstrip

EIS004N9

5 DOORS

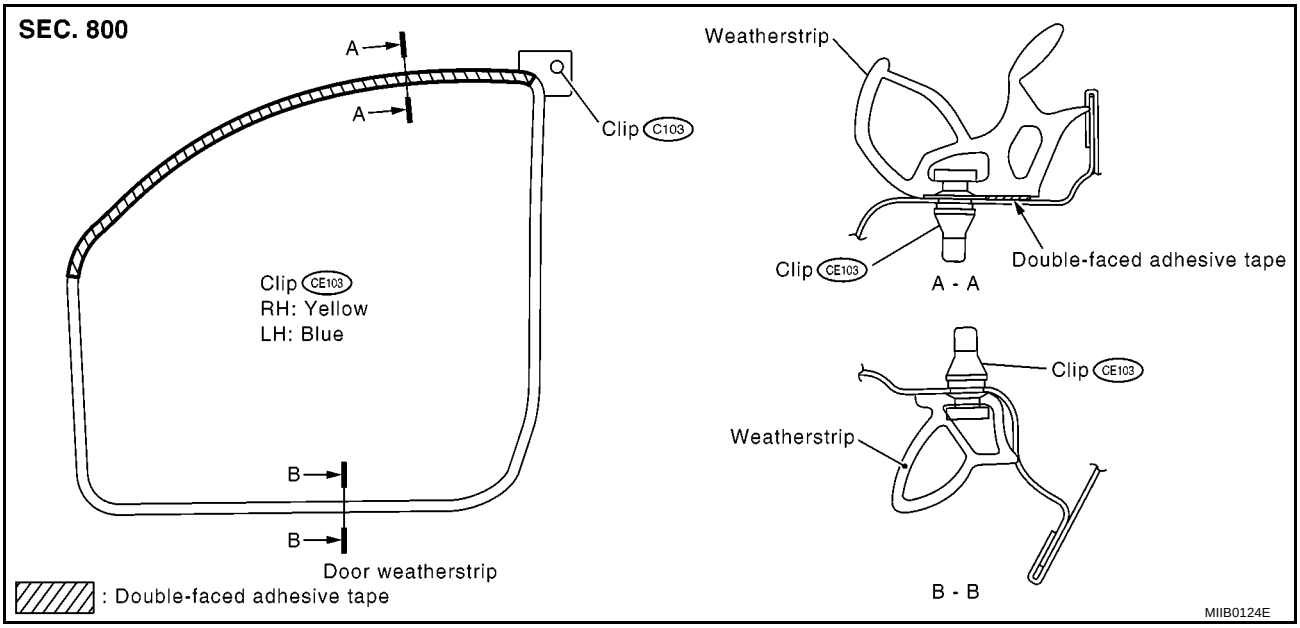


Double-sided tape (0.8 mm thick, 7 mm wide) : Product equivalent to Sumitomo 3M No. 5561

CAUTION:

During removal, if peeling off the double-sided tape is difficult, apply remover (product equivalent to Sumitomo 3M Cleaner 30) and then remove the double-sided tape. When using remover, keep it way from open flame and work in a sufficiently ventilated area.

3 DOORS



Double-sided tape (0.8 mm thick, 7 mm wide) : Product equivalent to Sumitomo 3M No. 5561

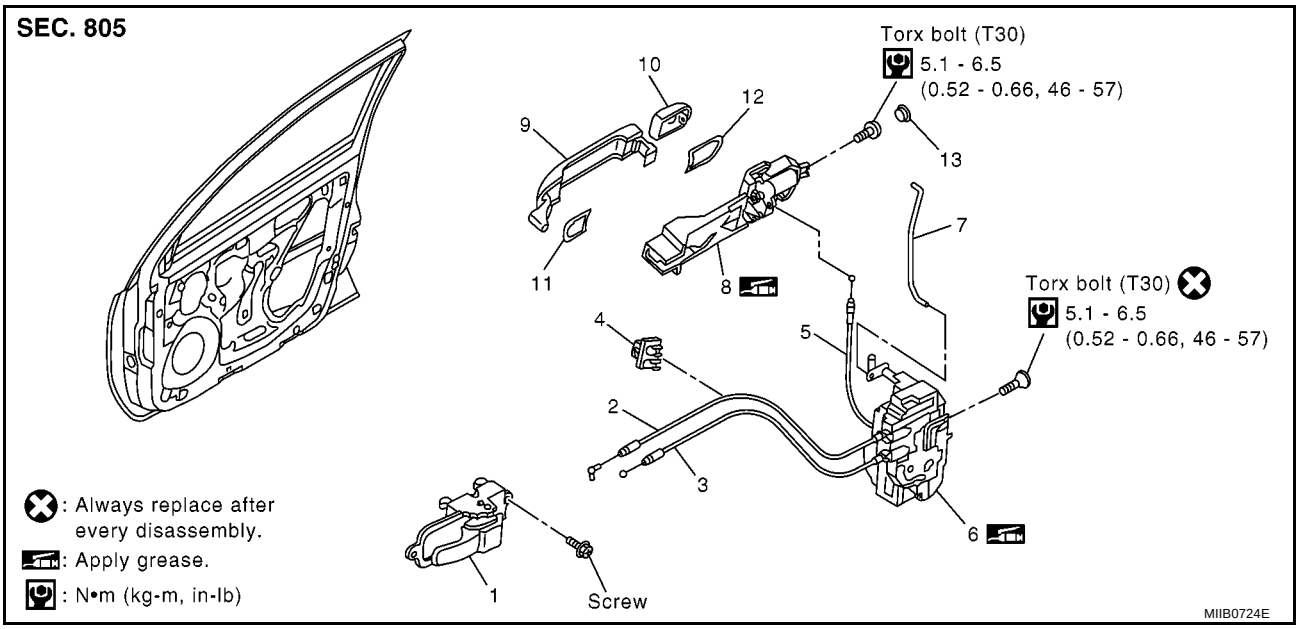
CAUTION:
During removal, if peeling off the double-sided tape is difficult, apply remover (product equivalent to Sumitomo 3M Cleaner 30) and then remove the double-sided tape. When using remover, keep it way from open flame and work in a sufficiently ventilated area.

FRONT DOOR LOCK

PFP:80502

Component Parts Location

EIS004NA



1. Inside handle
2. Lock knob cable
3. Inside handle cable
4. Holder
5. Outside handle cable
6. Door lock assembly
7. Key cylinder connecting rod
8. Outside handle bracket
9. Outside handle
10. *Door key cylinder assembly
11. Front gasket
12. Rear gasket
13. Grommet

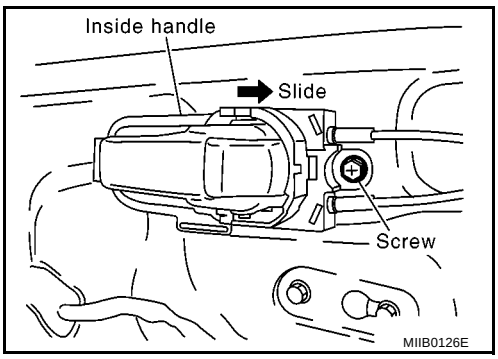
*: Outside handle escutcheon for vehicles with passenger door key cylinders.

Removal and Installation

EIS004NB

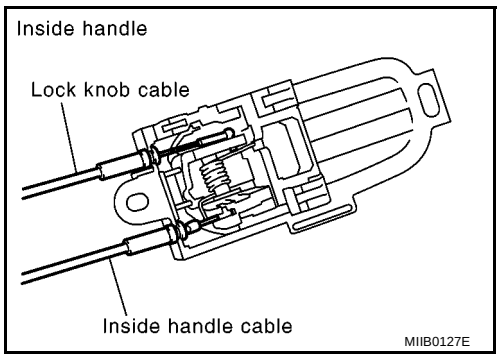
REMOVAL

1. Remove front door finisher. Refer to EI-16, "Removal and Installation" .
2. Fully close front door window.
3. Remove front door lower sash (rear). Refer to GW-69, "Removal and Installation" .
4. Remove inside handle cable and lock knob cable from holder.
5. Remove inside handle screws, slide handle toward rear of vehicle, disengage handle from door panel, and remove inside handle.

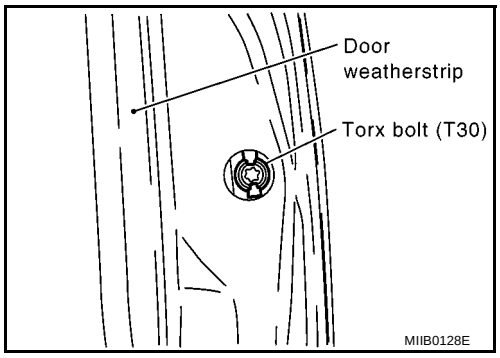


6. Disconnect inside handle cable and lock knob cable from inside handle.

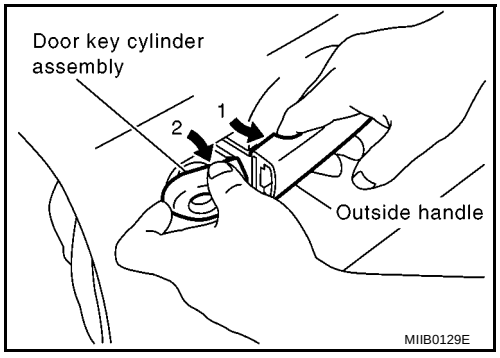
CAUTION:
During removal and installation, work so as not to bend the ends of the lock knob cable and inside handle cable.



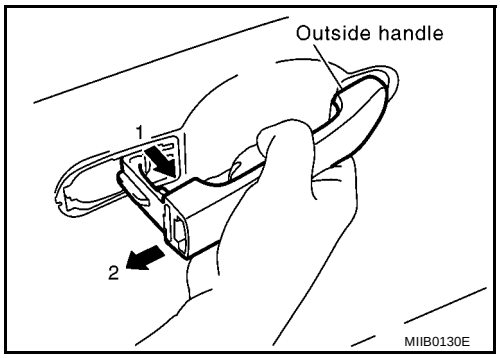
7. Remove door side grommets, and then remove door key cylinder assembly (escutcheon) bolts (Torx T30) from the grommet holes.
8. Remove key cylinder connecting rod (key cylinder side).: If there is no door key cylinder, GO TO 9.
9. Disconnect door antenna and door request switch connector and remove harness clamp. (Vehicle with intelligent key systems only)



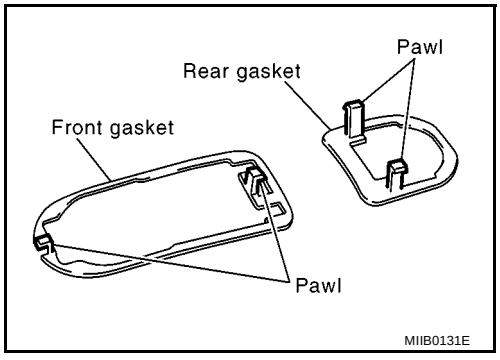
10. Remove door cylinder assembly while pulling outside handle forward.



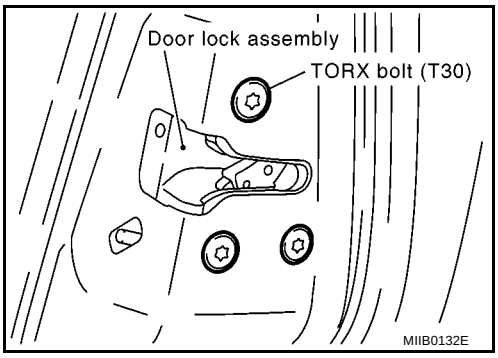
11. Pull outside door handle forward and then slide it toward vehicle rear to remove.



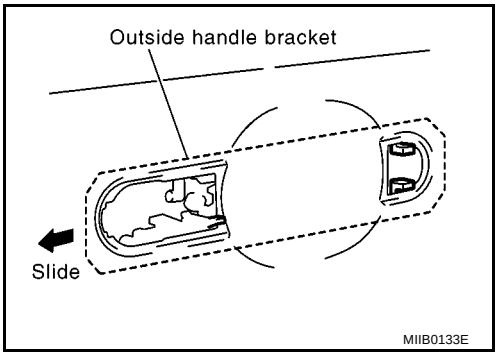
12. Remove front and rear gaskets.



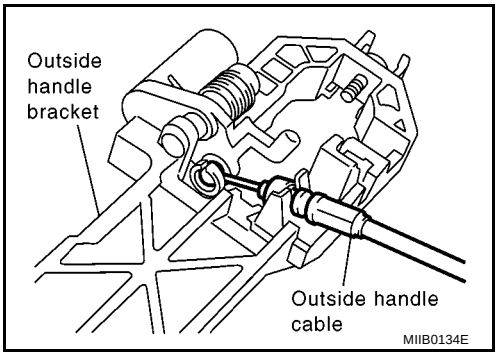
13. Remove door lock assembly bolts (Torx T30).



14. Slide outside handle bracket toward rear of vehicle, and then remove outside handle bracket and door lock assembly.
15. Disconnect door lock assembly connector.



16. Disconnect outside handle cable from outside handle bracket.



Install in the reverse order of removal.

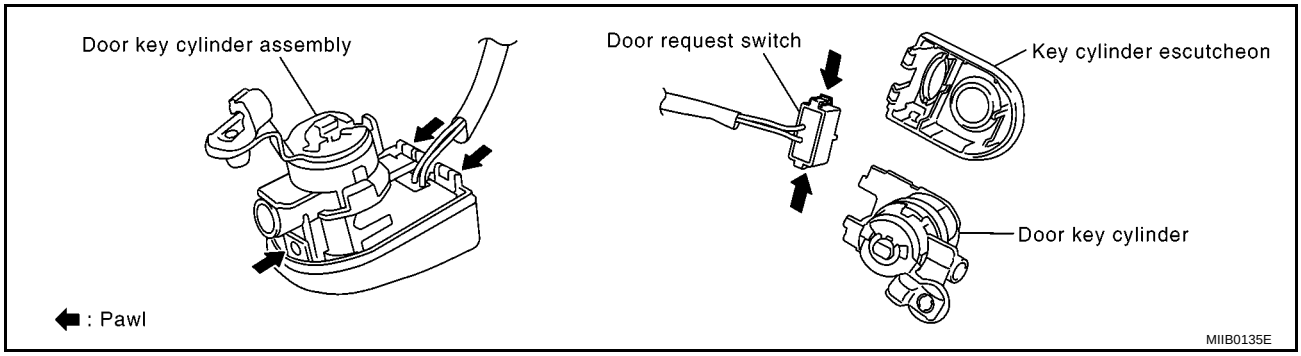
CAUTION:

- **Before installing door lock assembly, apply “anti-corrosion wax M-97 super” onto mounting seat on the body.**
- **Install each rod by rotating the rod holder until it engages with a tactile feel.**

Disassembly and Assembly

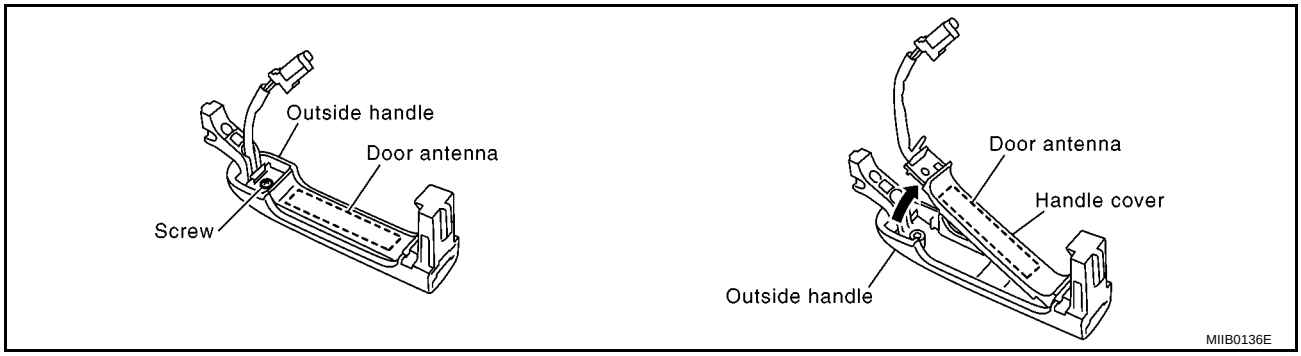
EIS004NC

DOOR KEY CYLINDER ASSEMBLY



1. Remove key cylinder escutcheon engagement (3 locations), and then remove door key cylinder.
2. Remove hook (2 locations) engagements, and then remove door request switch from key cylinder escutcheon. (Vehicles with intelligent key systems only)

OUTSIDE HANDLE



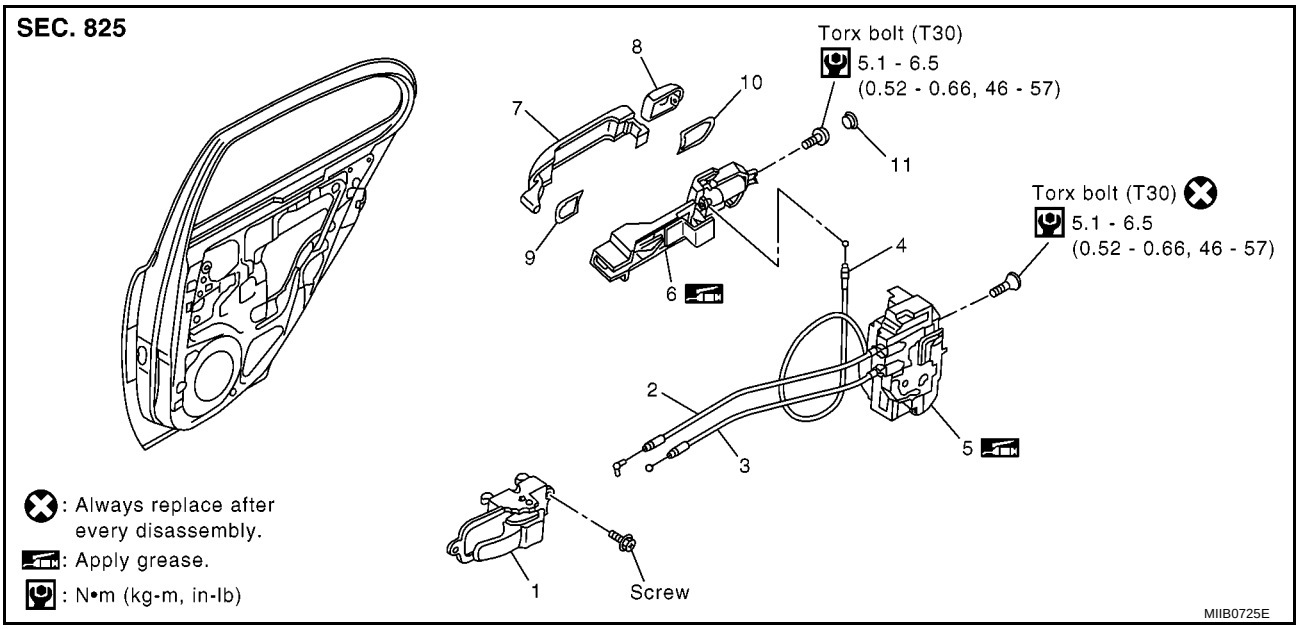
1. Remove handle cover screws.
2. Remove handle cover, and then remove door antenna. (Vehicles with intelligent key systems only)

REAR DOOR LOCK

PFP:82502

Component Parts Location

EIS004ND



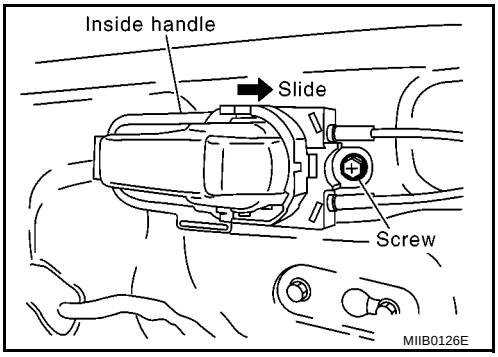
1. Inside handle
2. Lock knob cable
3. Inside handle cable
4. Outside handle cable
5. Door lock assembly
6. Outside handle bracket
7. Outside handle
8. Outside handle escutcheon
9. Front gasket
10. Rear gasket
11. Grommet

Removal and Installation

EIS004NE

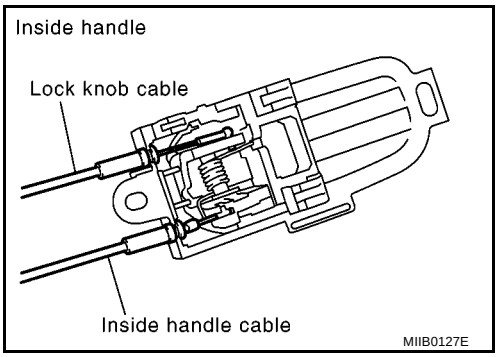
REMOVAL

1. Remove rear door finisher. Refer to EI-16, "Removal and Installation" .
2. Remove partition sash. Refer to GW-72, "Removal and Installation" .
3. Support door glass while lifting it up to the door window completely closed position.
4. Remove inside handle bolts, slide handle toward rear of vehicle, remove engagement with door panel, and remove inside handle.

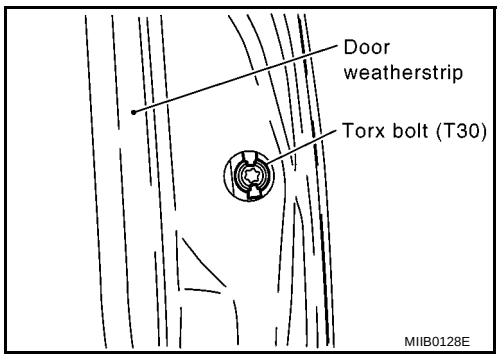


5. Disconnect inside handle cable and lock knob cable from inside handle.

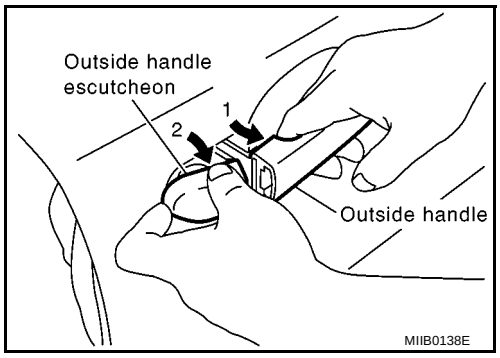
CAUTION:
During removal and installation, work so as not to bend the ends of the lock knob cable and inside handle cable.



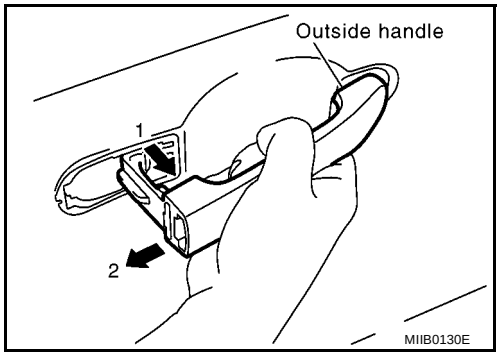
6. Remove door side grommets, and then remove outside handle escutcheon screws (Torx T30) from grommet holes.



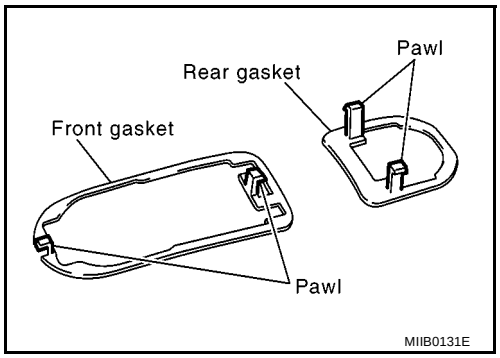
7. Pull outside handle forward while removing outside handle escutcheon.



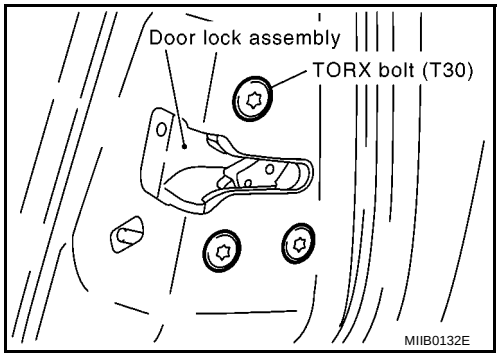
8. Pull outside door handle forward and then slide it toward vehicle rear to remove.



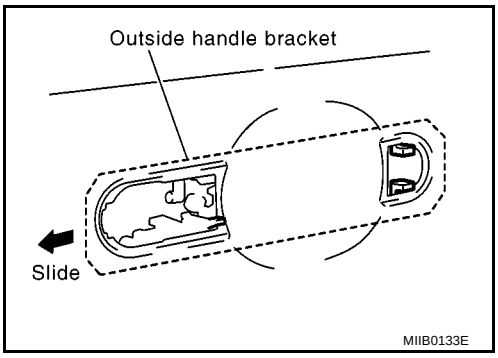
9. Remove front and rear gaskets.



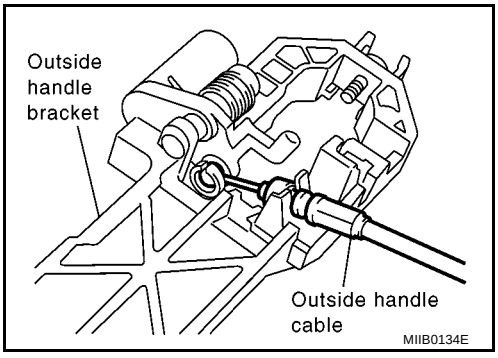
10. Remove door lock assembly screws (Torx T30).



11. Slide outside handle bracket toward rear of vehicle, and then remove outside handle bracket and door lock assembly.
12. Disconnect door lock assembly connector.



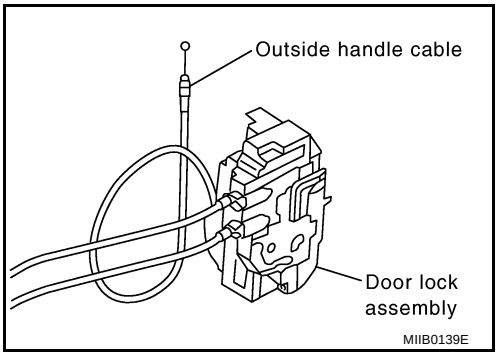
13. Disconnect outside handle cable from outside handle bracket.



Install in the reverse order of removal.

CAUTION:

- **Before installing door lock assembly, apply “anti-corrosion wax M-97 super” onto mounting seat on the body.**
- **When installing door lock assembly, be careful when rotating the outside handle cable as shown in the figure.**
  - **Place the outside handle bracket cable on the outside of door lock assembly before installing.**

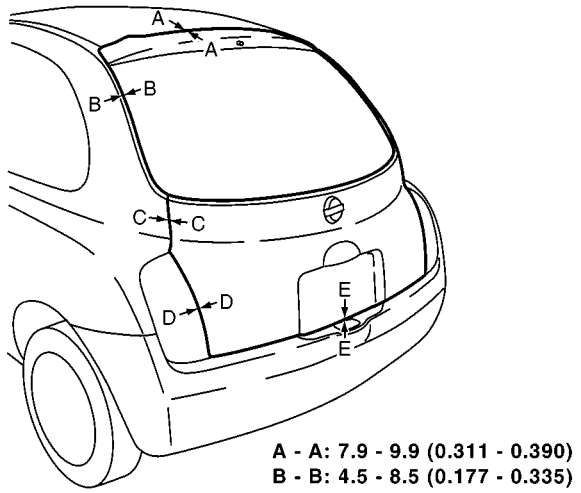


BACK DOOR

PFP:90100

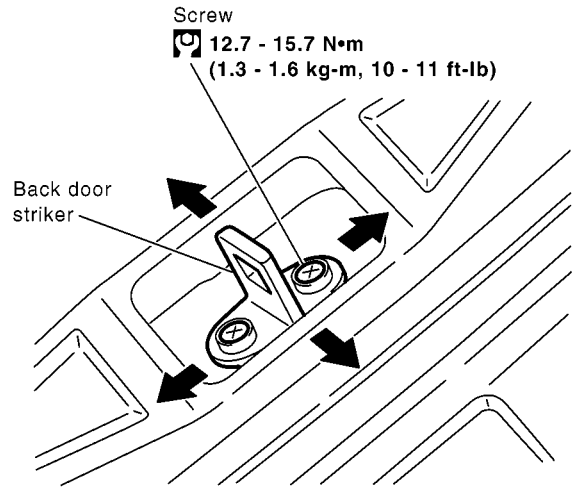
Fitting Adjustment

EIS004NF



A - A: 7.9 - 9.9 (0.311 - 0.390)
B - B: 4.5 - 8.5 (0.177 - 0.335)
C - C: 4.5 - 6.9 (0.177 - 0.272)
D - D: 4.0 - 8.0 (0.157 - 0.315)
E - E: 5.9 - 9.9 (0.232 - 0.390)

Unit: mm (in)



MIIB0140E

VERTICAL/LATERAL CLEARANCE (SURFACE DIFFERENCE) ADJUSTMENT

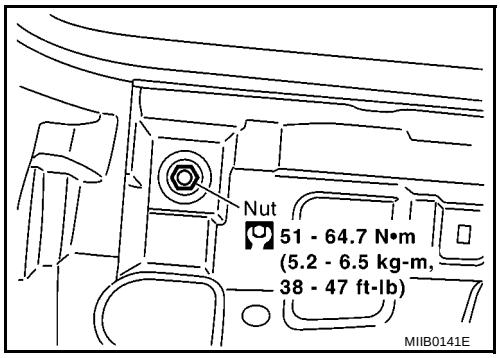
1. Remove luggage rear plate. Refer to EI-26, "Removal and Installation" .
2. Loosen back door striker screws.
3. Use a rubber hammer, etc., to strike back door striker to make the gap on the right and left and with the rear bumper even, and then tighten striker screws to specified torque.

CAUTION:

Adjust gap between back door and other areas to attain the right and left dimensional difference shown below.

Back door glass (B) - Body side outer (B)	**: 2.0 mm or less**
Back door outer (C) - Body side outer (C)	**: 1.5 mm or less**
Back door outer (D) - Rear combination lamp (D)	**: 2.0 mm or less**

4. If following the steps above does not result in fine adjustment, remove headliner and loosen the hinge nuts on vehicle for further adjustment.
   For removing headliner, refer to EI-24, "Removal and Installation" .



MIIB0141E

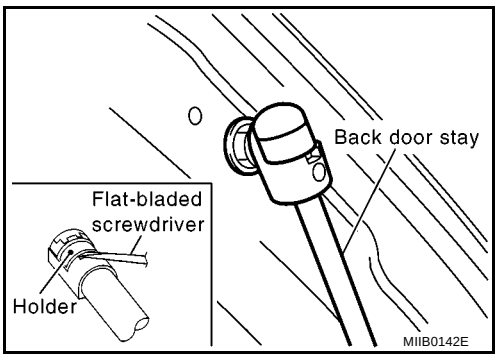
Back Door Assembly

EIS004NG

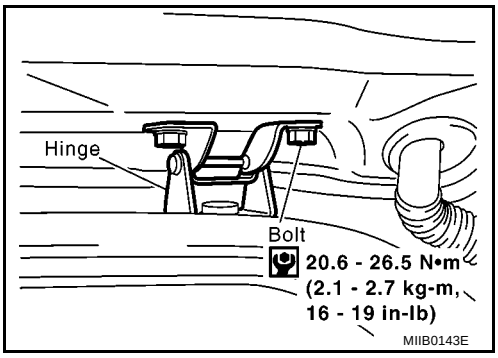
REMOVAL

1. Remove back door finisher. Refer to EI-18, "Removal and Installation" .
2. Disconnect connectors in back door and unclamp harness. Pull out harness from back door.

3. After supporting the back door lock to keep it from falling, use a screwdriver, etc., to remove the back door stay (glass stay) door side hooks, and then pull out back door stay from stud pole.

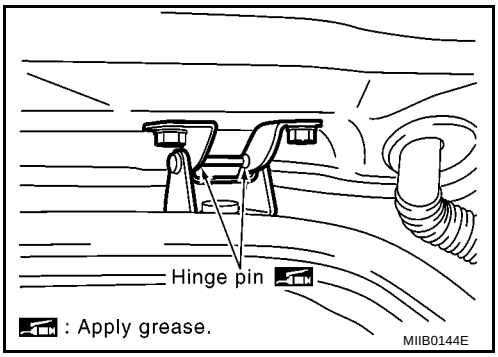


4. Remove back door hinge bolts, and then remove back door assembly.



INSPECTION

1. Check hinges for the following:
   - Unusual noise or door closing and opening effort
   - Component wear or damage
2. Apply body grease to the rotating part of the hinge.

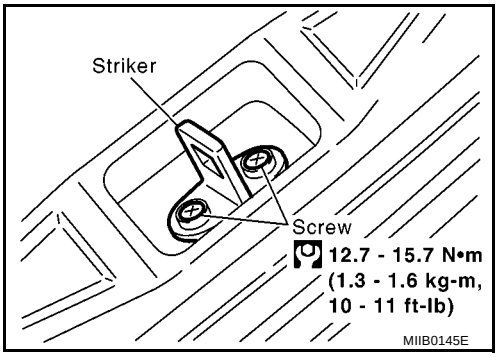


Back Door Striker

EIS004NH

REMOVAL

1. Remove luggage rear plate. Refer to EI-26, "Removal and Installation" .
2. Remove screws and back door striker.



INSTALLATION

Install in the reverse order of removal.

CAUTION:

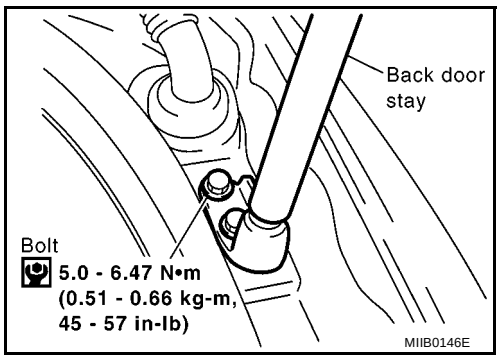
- **After finishing work, confirm proper operation.**
- **After finishing work, adjust fitting. Refer to BL-216, "Fitting Adjustment" .**

Back Door Stay Assembly

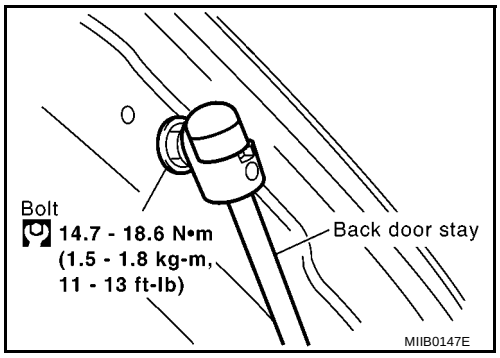
EIS004NI

REMOVAL

1. Support back door lock to prevent it from falling.
2. Remove back door stay assembly (gas stay) vehicle side bracket bolts.



3. Remove back door stud balls, and then remove back door stay assembly from back door.



INSTALLATION

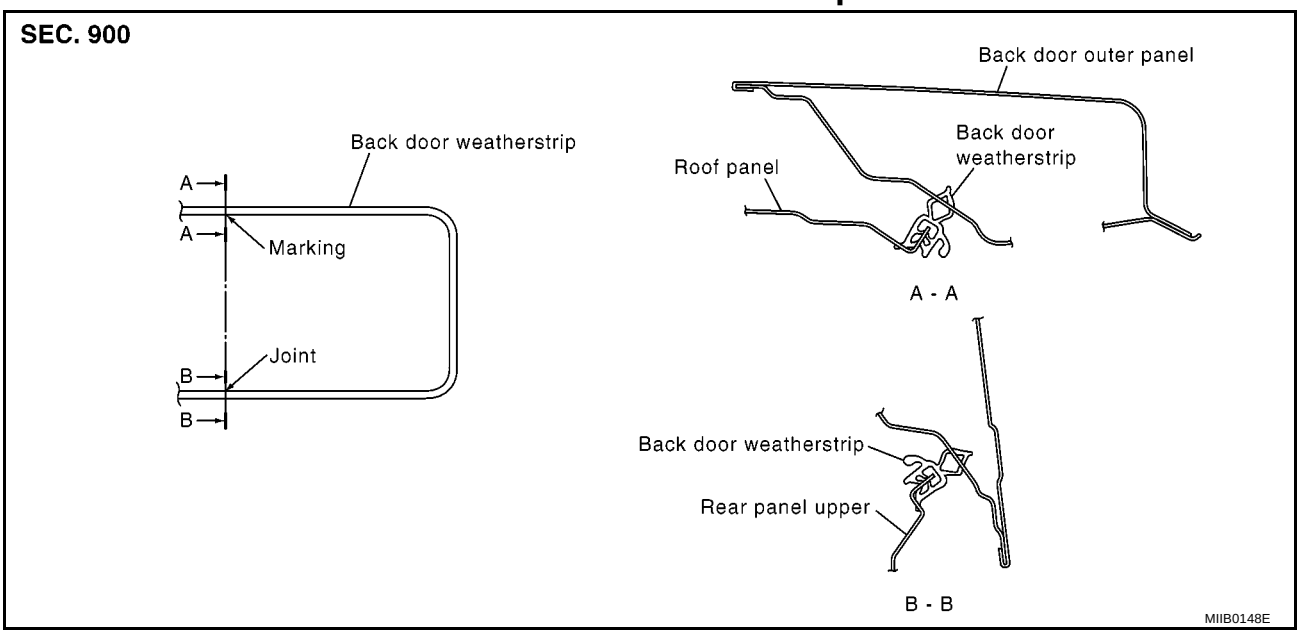
Install in the reverse order of removal.

CAUTION:

- **After finishing work, confirm proper operation.**

Removal and Installation of Back Door Weatherstrip

EIS004NJ



REMOVAL

Pull up and remove engagement with body from weatherstrip joint.

CAUTION:

After removal, do not pull strongly on the weatherstrip.

INSTALLATION

Install in the reverse order of removal.

- Working from the upper section, align weatherstrip mark with vehicle center position mark and install weatherstrip onto the back door.
- For the lower section, align the weatherstrip seam with center of the striker.
- After finishing work, pull weatherstrip lightly to check for looseness.
- Make sure the weatherstrip is fit tightly at each corner and luggage rear plate.

BACK DOOR LOCK

PFP:90504

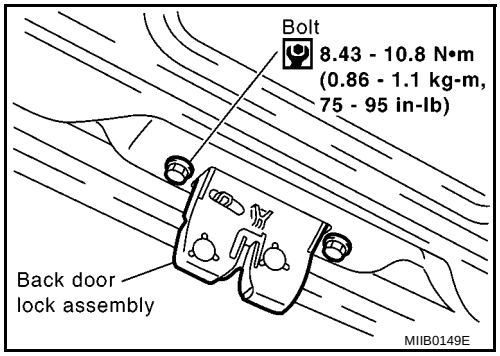
Removal and Installation

EIS004NK

BACK DOOR LOCK ASSEMBLY

Removal

1. Remove back door finisher. Refer to EI-18, "Removal and Installation" .
2. Disconnect back door lock assembly connector.
3. Remove bolts to remove back door lock assembly from inside back door panel.



Installation

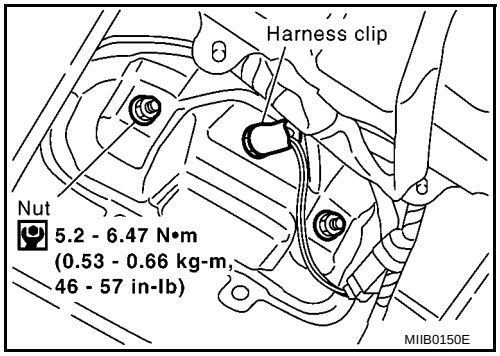
Install in the reverse order of removal.

- If greasing condition in each sliding section on back door assembly is poor, apply “BODY GREASE”.
- After finishing work, confirm proper operation.

BACK DOOR HANDLE ASSEMBLY

Removal

1. Remove back door finisher. Refer to EI-18, "Removal and Installation" .
2. Remove back door request switch (vehicles with intelligent key systems) and back door open switch harness fastening clips and connectors.
3. Remove back door handle assembly nuts, and then remove back door handle assembly.



Installation

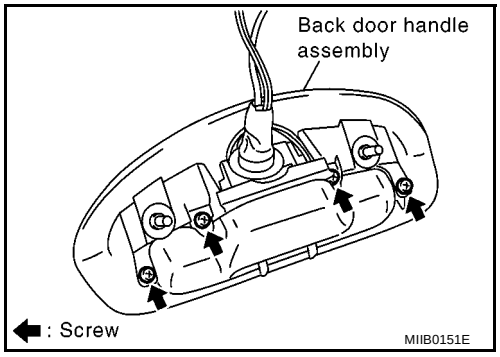
Install in the reverse order of removal.

CAUTION:

After finishing work, confirm proper operation.

Disassembly and Assembly

Remove screws, and then remove back door request switch (vehicles with intelligent key systems) and back door open switch.

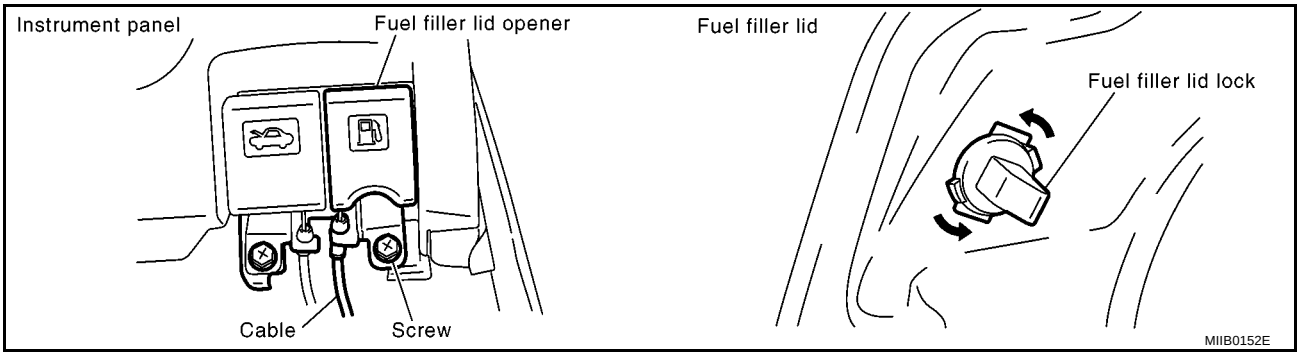


FUEL FILLER LID OPENER

PFP:78820

Component Parts Location

EIS004NL

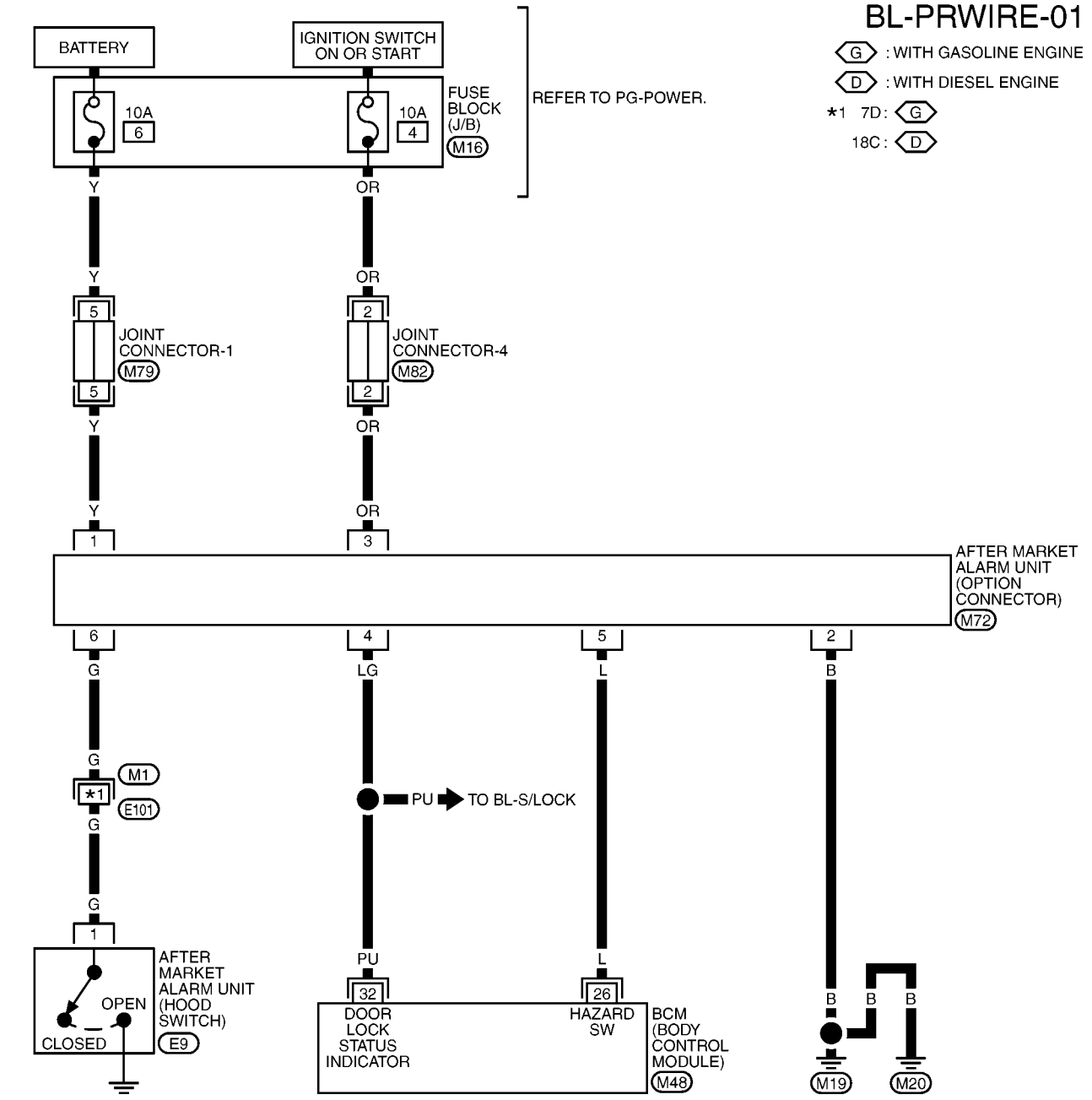


THEFT WARNING SYSTEM

PFP:25362

Wiring Diagram — THEFT —/PRWIRE

EIS0055I



REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)

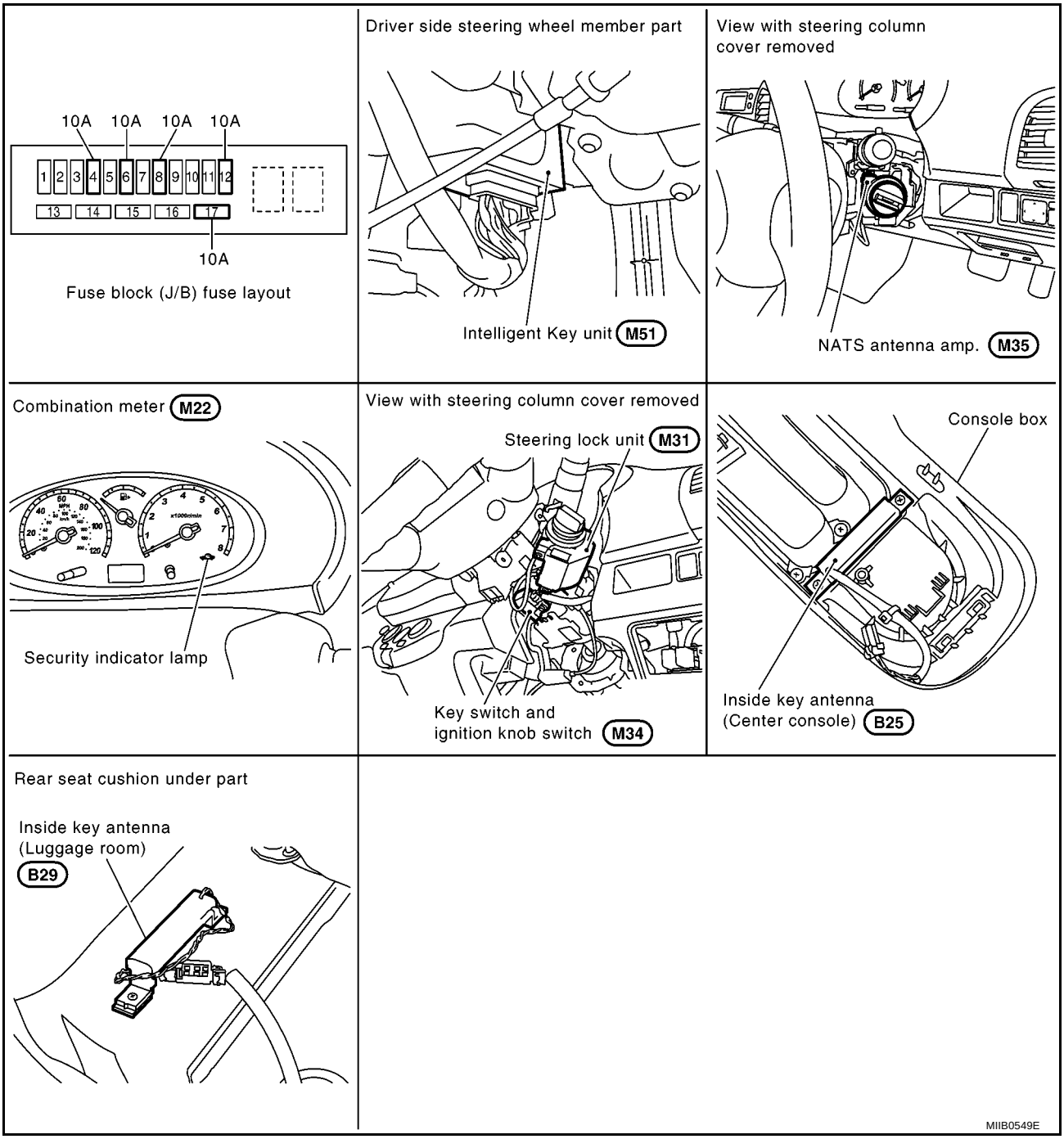
MKWA1797E

NATS(NISSAN ANTI-THEFT SYSTEM)

PFP:28591

Component Parts and Harness Connector Location

EIS004Q1



NOTE:
If customer reports a “NO START” condition, request ALL ignition key (without intelligent key system) or mechanical key (with intelligent key system) to be brought to the dealer to check for a NATS malfunction.

System Description

EIS004Q2

DESCRIPSTION

NATS (Nissan Anti-Theft System) has the following immobilizer functions:

- Engine immobilizer shows high anti-theft performance to prevent engine start by other than the owner (registered key: ignition key, mechanical key and Intelligent Key).

- Only a key with key ID registered in BCM (without Intelligent Key system) or Intelligent Key unit (with Intelligent Key system) and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- In the vehicle without Intelligent Key system, security indicator always flashes with other than ignition switch ON or START position.
- In the vehicle with Intelligent Key system, security indicator always flashes with mechanical key removed condition (key switch OFF) and ignition knob released condition on LOCK position (ignition knob switch OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- If system detects malfunction, it turns on security indicator in ignition switch ON position.
- If the owner requires, mechanical key ID can be registered for up to 5 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key or mechanical key is added, registration* is required.
  *: All keys kept by the owner of the vehicle should be registered with ignition key or mechanical key.

– ECM
– BCM (models without Intelligent Key system)
– Intelligent Key unit (models with Intelligent Key system)
– Ignition key (models without Intelligent Key system)
– Mechanical key (models with Intelligent Key system)

- NATS trouble diagnoses, system initialization and additional registration of other ignition key or mechanical key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software. When NATS initialization has been completed, the ID of the inserted ignition key or mechanical key is automatically registered. Then, if necessary, additional registration of other ignition key or mechanical key IDs can be carried out. Regarding the procedures of NATS initialization and ignition key or mechanical key ID registration, refer to CONSULT-II operation manual, NATS.

SECURITY INDICATOR

- Warns that the vehicle has NATS (Nissan Anti-Theft System).
- In the vehicle without Intelligent Key system, security indicator always flashes with other than ignition switch ON or START position. In the vehicle with Intelligent Key system, security indicator always flashes with mechanical key removed condition (key switch OFF) and ignition knob released condition on LOCK position (ignition knob switch OFF).

  NOTE:
  Because security indicator is highly efficient, the battery is barely affected.

Condition of Security Indicator (Normal)

WITHOUT INTELLIGENT KEY SYSTEM

Security indicator condition	Ignition key	Operation or condition of ignition key			
		Ignition switch: ON position	Ignition switch: ACC position	Ignition switch: OFF position (Key is inserted.)	Ignition switch: OFF position (Remove key.)
	Register key	OFF	Flashing	Flashing	Flashing
	Ignition key not registered	ON	Flashing	Flashing	Flashing

WITH INTELLIGENT KEY SYSTEM

- In ignition knob operation with Intelligent Key, it always turns on with pushing ignition knob, and always flashes with ignition knob released (ignition knob switch OFF) condition on ignition knob “LOCK” position.
- In ignition knob operation with mechanical key, it turns off on the condition that mechanical key is inserted in key cylinder, and always flashes with ignition knob released (ignition knob switch OFF) condition on mechanical key removed condition.

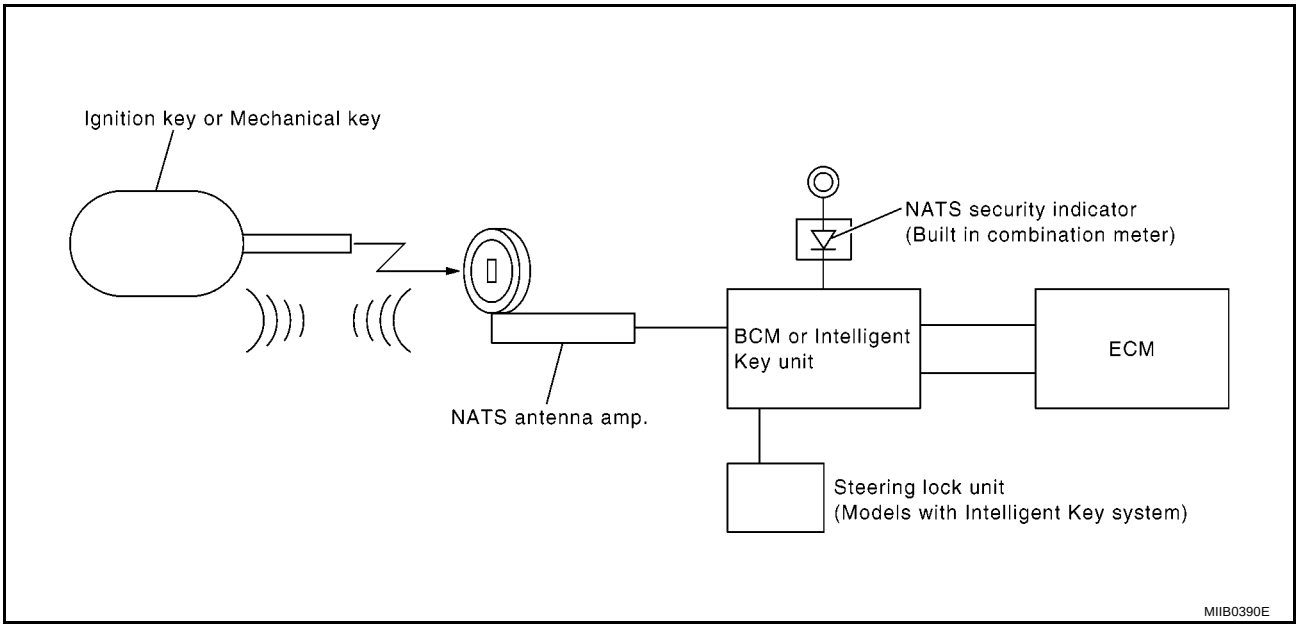
System Composition

EIS004Q3

The immobilizer function of the NATS consists of the following:

- Ignition key (models without Intelligent Key system)
- Mechanical key (models with Intelligent Key system)
- NATS antenna amp.
- Steering lock unit. (models with Intelligent Key system)
- BCM (models without Intelligent Key system)
- Intelligent Key unit (models with Intelligent Key system)
- Engine control module (ECM)
- Security indicator (built-in combination meter)

NOTE:
The communication between ECM and BCM/Intelligent Key unit uses the CAN communication system.



ECM Re-communicating Function

EIS004Q4

Performing following procedure can automatically perform re-communication of ECM and BCM or Intelligent Key unit, but only when the ECM has been replaced with a new one (*1).
*1: New one means a virgin ECM which has never been energized on-board.
(In this step, initialization procedure by CONSULT-II is not necessary)

NOTE:

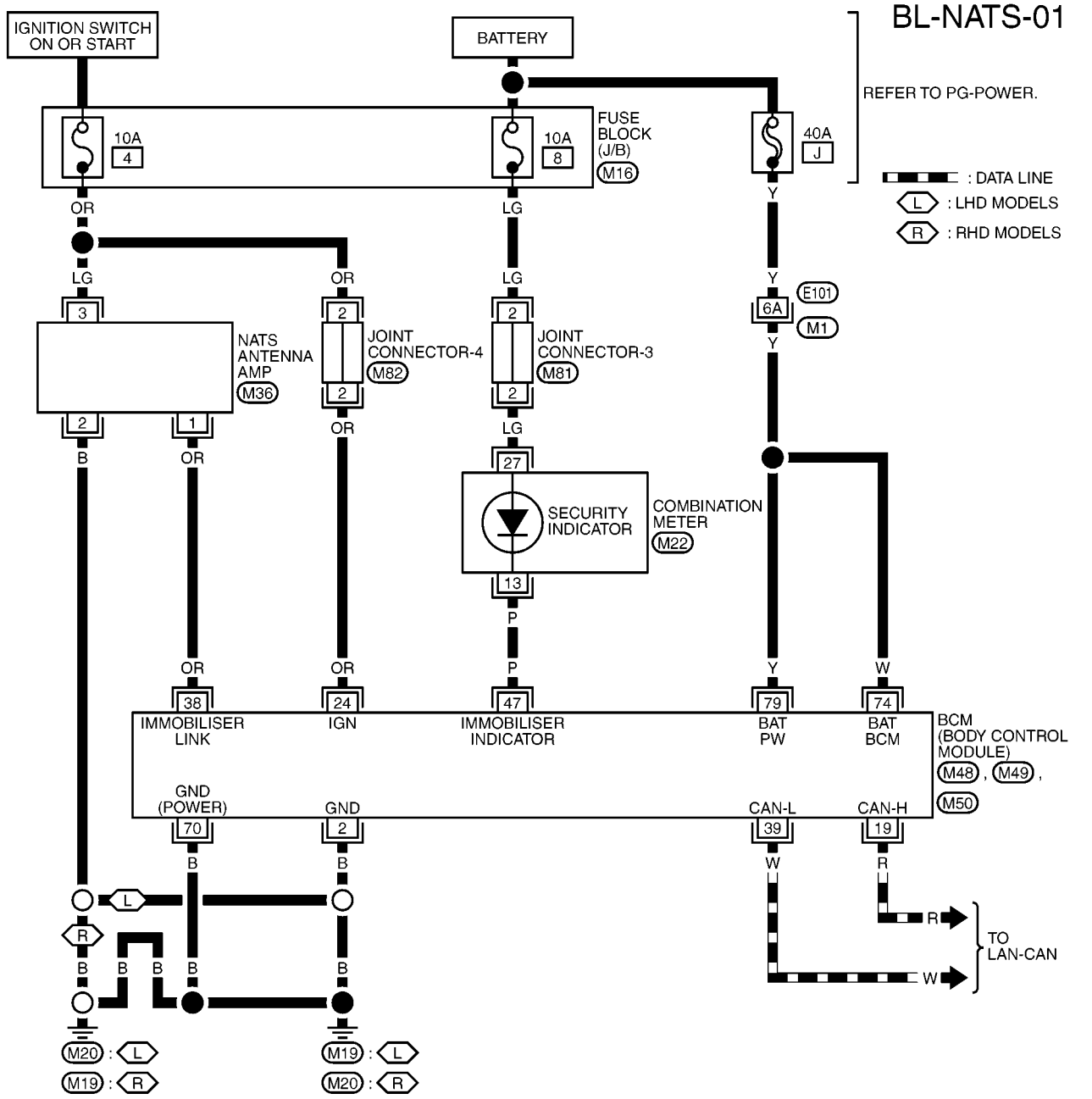
- **When registering new Key IDs or replacing the ECM other than brand new, refer to CONSULT-II Operation Manual NATS.**
- **If multiple keys are attached to the key holder, separate them before work.**
- **Distinguish keys with unregistered key ID from those with registered ID.**

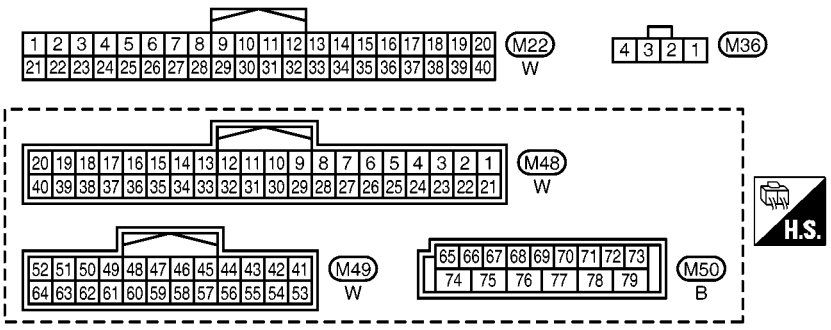
1. Install ECM.
2. Using a registered key (*2), turn ignition switch to “ON”.
   *2: To perform this step, use the key that has been used before performing ECM replacement.
3. Maintain ignition switch in “ON” position for at least 5 seconds.
4. Turn ignition switch to “OFF”.
5. Start engine.
   If engine can be started, procedure is completed.
   If engine cannot be started, refer to CONSULT-II Operation Manual NATS and initialize control unit.

Wiring Diagram —NATS—

EIS004Q6

WITHOUT INTELLIGENT KEY SYSTEM

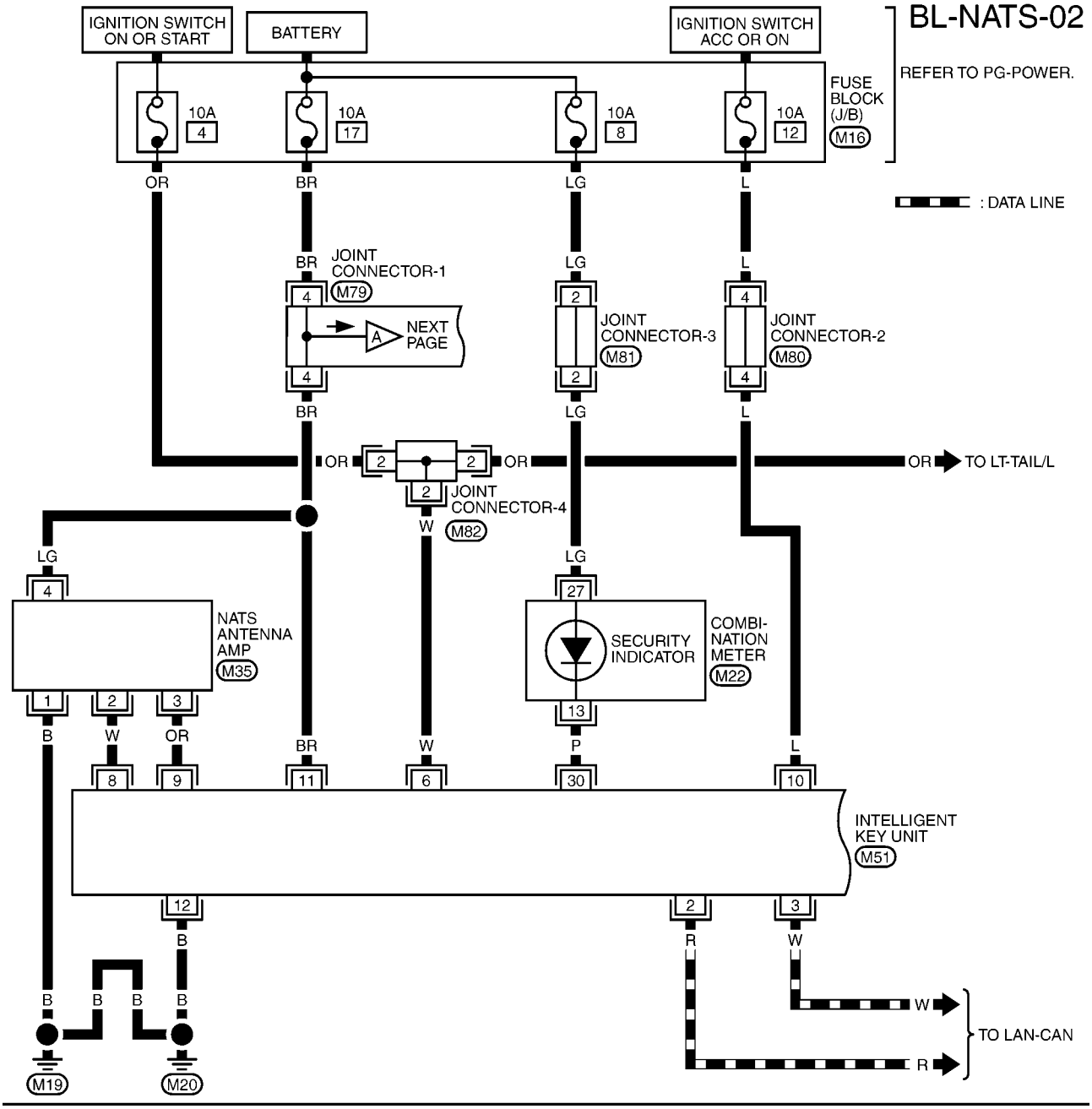


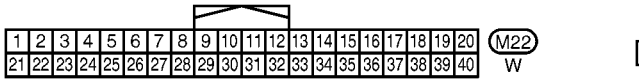


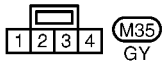
REFER TO THE FOLLOWING.
M1 -SUPER MULTIPLE JUNCTION (SMJ)
M16 -FUSE BLOCK-JUNCTION BOX (J/B)
M81, M82 -JOINT CONNECTOR (J/C)

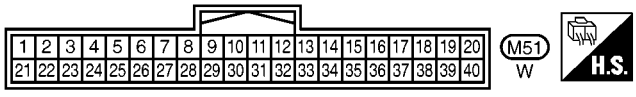
MKWA1415E

WITH INTELLIGENT KEY SYSTEM





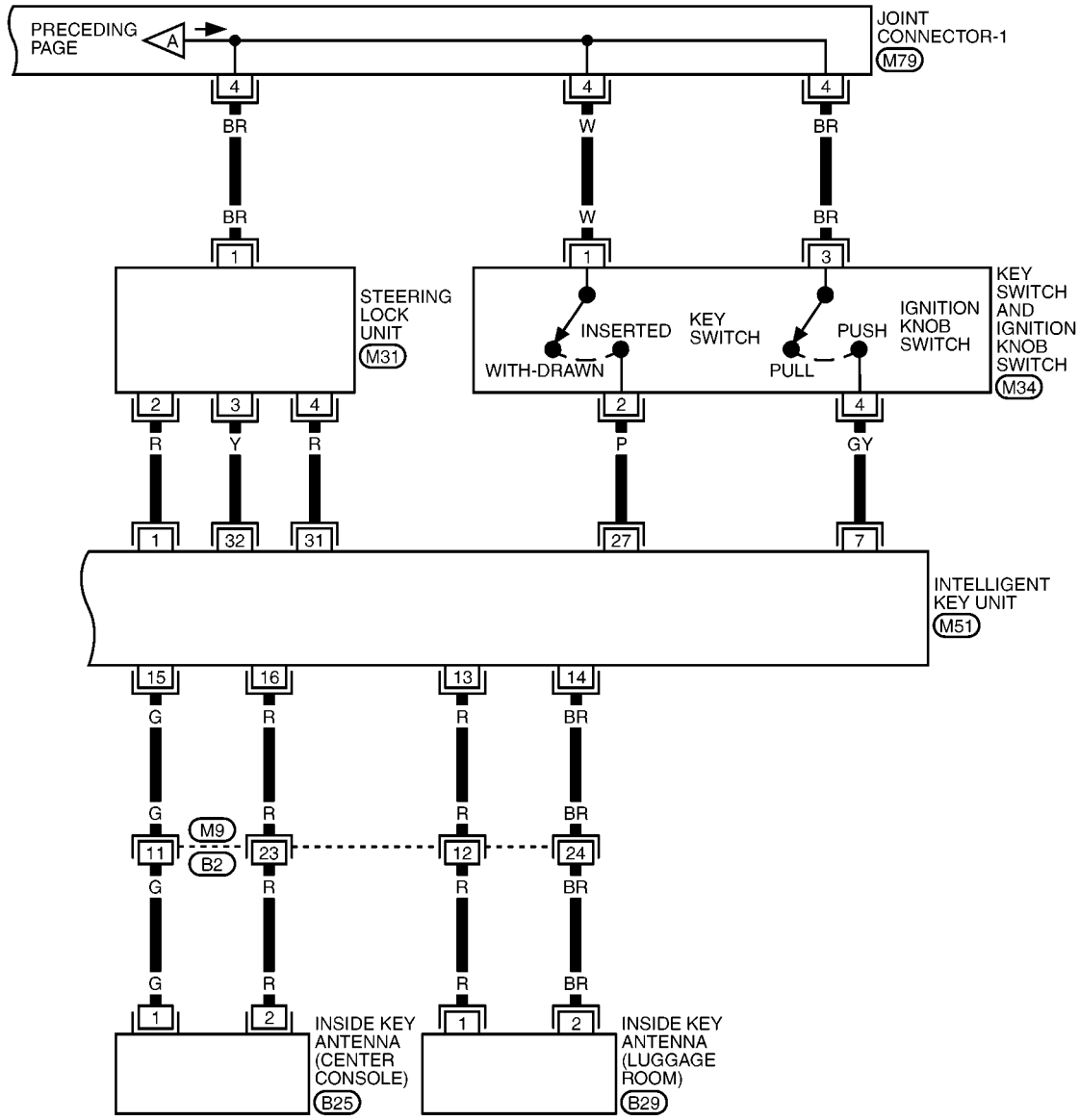


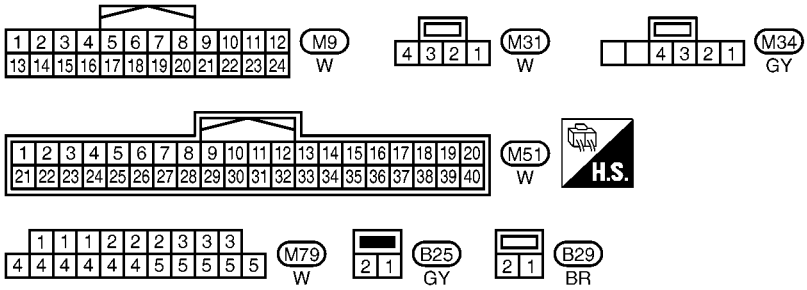


REFER TO THE FOLLOWING.
M16 -FUSE BLOCK-
JUNCTION BOX (J/B)
M79 , M80 , M81 , M82
-JOINT CONNECTOR (J/C)

MKWA1798E

BL-NATS-03

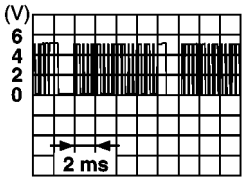




MKWA1799E

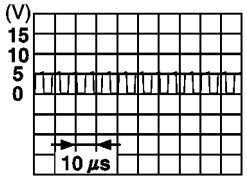
Terminals and Reference Value for Steering Lock Unit/with Intelligent Key System

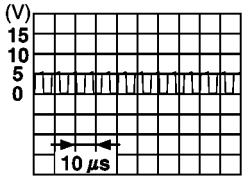
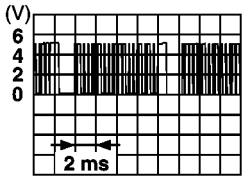
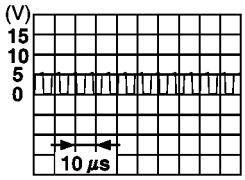
EIS004Q7

Terminal number	Wire color	Signal Designation	Measuring condition		Voltage (V)
			Ignition knob position	Operation or conditions	
1	BR	Battery power supply	LOCK	—	Approx. 12
2	R	Steering wheel lock unit power supply	LOCK	—	Approx. 5
3	Y	Steering wheel lock unit communication signal	LOCK	Press ignition knob with Intelligent Key inside vehicle.	 SIIA1911J
				Other than the above	Approx. 5
4	R	Steering wheel lock unit ground	—	—	Approx. 0

Terminals and Reference Value for Intelligent Key Unit/with Intelligent Key System

EIS004Q8

Terminal No.	Wire color	Signal designation	Measuring condition		Voltage (V)
			Ignition knob position	Operation or conditions	
1	R	Steering wheel lock unit power supply	LOCK	—	Approx. 5
2	R	CAN communication H	—	—	—
3	W	CAN communication L	—	—	—
6	W	Ignition power supply	ON	—	Approx. 12
7	GY	Ignition knob switch	—	Press ignition knob.	Approx. 12
				Return ignition knob to LOCK position.	Approx. 0
8	W	NATS antenna amp.	—	Ignition knob OFF → ON position	Just after turning ignition switch “ON” pointer tester
9	OR	NATS antenna amp.	—	Ignition knob OFF → ON position	Should move, Just after turning ignition switch “ON” pointer tester
10	L	ACC power supply	ACC	—	Approx. 12
11	BR	Battery power supply	—	—	Approx. 12
12	B	GND	—	—	Approx. 0
13	R	Inside key antenna (+) (Luggage room)	LOCK	Any door open → all doors shut (Door switch: ON → OFF)	 SIIA1910J
14	BR	Inside key antenna (-) (Luggage room)			

Terminal No.	Wire color	Signal designation	Measuring condition		Voltage (V)
			Ignition knob position	Operation or conditions	
15	G	Inside key antenna (+) signal (Center console)	LOCK	Any door open → Close (Door switch: ON → OFF) Ignition knob switch: ON (press ignition knob.)	 SIIA1910J
16	R	Inside key antenna (-) signal (Center console)			
27	P	Key switch signal	LOCK	Insert mechanical key into ignition key cylinder.	Approx. 12
				Remove mechanical key from ignition key cylinder.	Approx. 0
30	P	Security indicator lamp	LOCK	Goes OFF → illuminates (Every 2.4 seconds)	Approx. 12 → 0
31	R	Steering wheel lock unit ground	—	—	Approx. 0
32	Y	Steering wheel lock unit communication signal	LOCK	Press ignition knob with Intelligent Key inside vehicle.	 SIIA1911J
				Other than the above	Approx. 5
37	BR	Outside antenna (passenger side) (+) signal	LOCK	Passenger door request switch operation (Switch: ON)	 SIIA1910J
38	Y	Outside antenna (passenger side) (-) signal			

Terminals and Reference Value for BCM/without Intelligent Key System

EIS004YO

Terminal No.	Wire color	Signal designation	Measuring condition		Voltage (V)
			Ignition knob position	Operation or conditions	
2	B	GND	—	—	Approx. 0
19	R	CAN communication H	—	—	—
24	OP	Ignition power supply	ON	—	Approx. 12
38	OR	NATS antenna amp.	—	Ignition knob OFF → ON position	Should move, Just after turning ignition switch “ON” pointer tester
39	W	CAN communication L	—	—	—
47	P	Security indicator lamp	LOCK	Goes OFF → illuminates (Every 2.4 seconds)	Approx. 12 → 0
70	B	GND	—	—	Approx. 0
74	W	Battery power supply	—	—	Approx. 12
79	Y	Battery power supply	—	—	Approx. 12

CONSULT-II

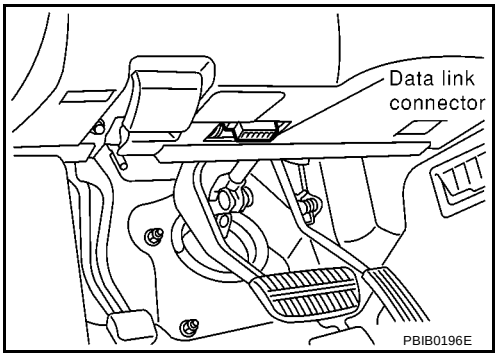
EIS004Q9

CONSULT-II INSPECTION PROCEDURE

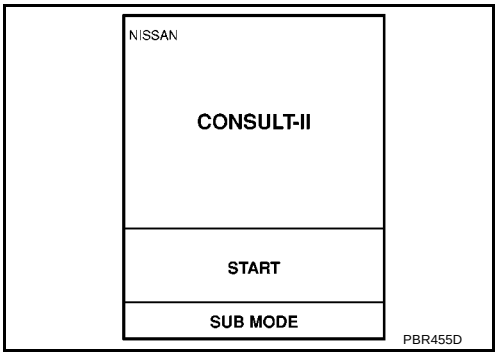
1. Turn ignition switch OFF.
2. Insert NATS program card into CONSULT-II.

Program card : NATS (AEN02C)

3. Connect CONSULT-II and “CONSULT-II CONVERTER” to data link connector.

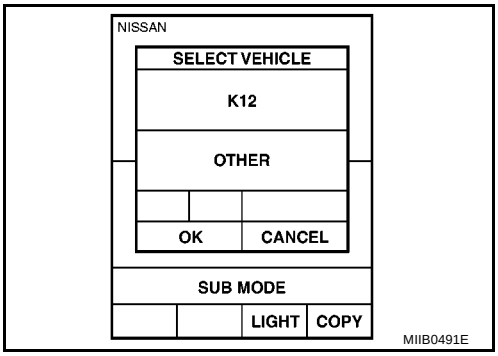


4. Turn ignition switch ON position.
5. Touch “START”.



6. Select “K12”
7. Perform each diagnostic test mode according to each service procedure.

For further information, see the CONSULT-II Operation Manual, NATS.



CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT- II DIAGNOSTIC TEST MODE	Description
IMMU INITIALIZE	When replacing any of the following three components, C/U initialization is necessary. [Ignition key or mechanical key/BCM or Intelligent Key unit]
IMMU FUNCTION CHECK	Detected items (screen terms) are as shown in the chart.

NOTE:
When any initialization is performed, all ID numbers previously registered will be erased and all ignition keys or mechanical key must be registered again. The engine cannot be started with an unregistered key. The system will show “DIFFERENCE OF KEY” as a IMMU FUNCTION CHECK on the CONSULT-II screen.

NATS IMMU FUNCTION CHECK RESULT ITEM CHART

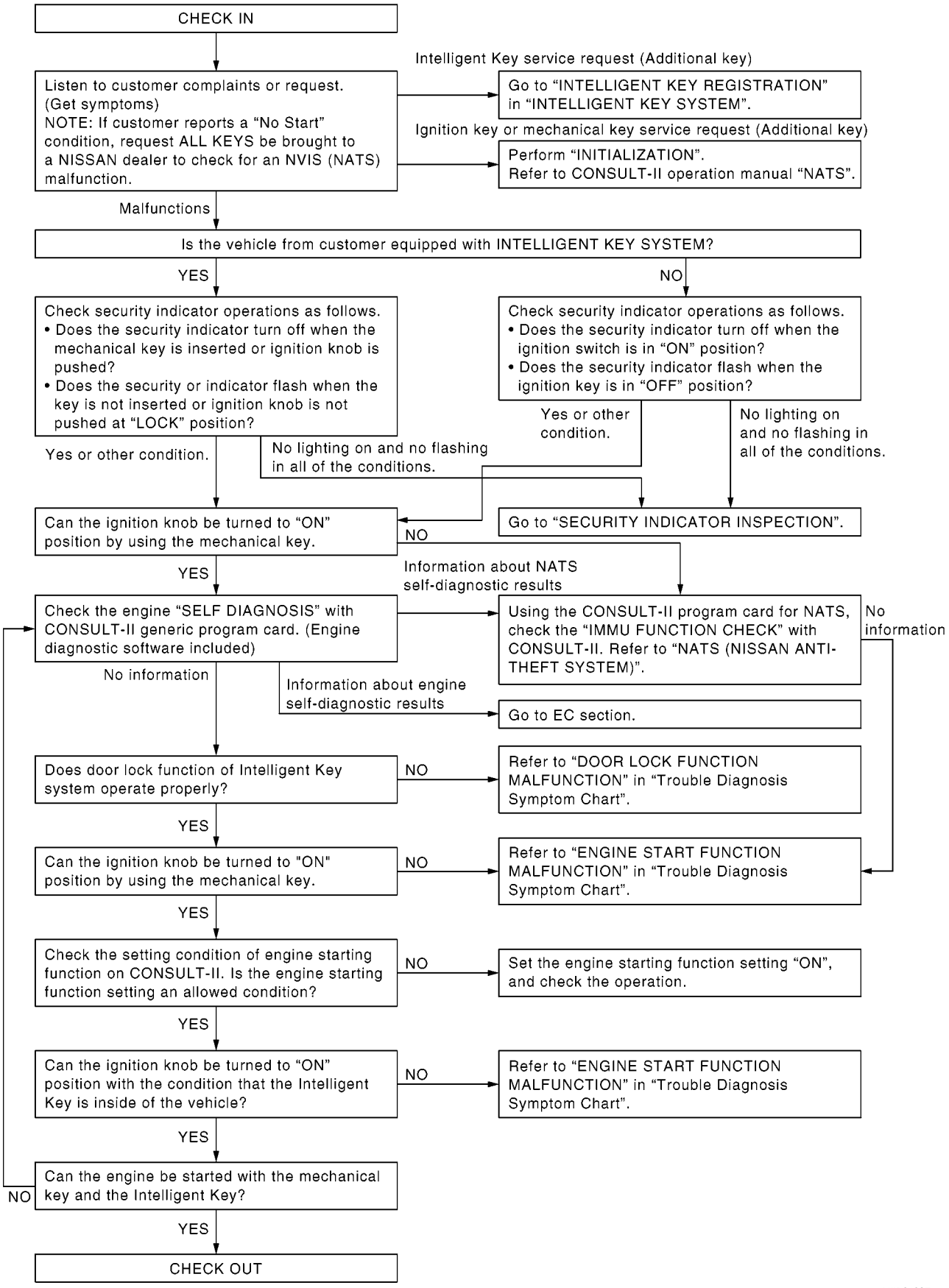
Detected items (Screen terms)	Description
UNREGISTERED BCM*	ID is not registered in BCM
CHAIN OF IMMU-KEY	NATS IMMU cannot receive the key ID signal.
DIFFERENCE OF KEY	BCM or Intelligent Key unit can receive the key ID signal but the result of ID verification between key ID and BCM or Intelligent Key is NG
CHAIN OF IPDM-IMMU*	The communication with IPDM E/R is malfunction.
ID DISCORD IPDM-IMMU	BCM or Intelligent Key unit can receive from IPDM E/R signal but the result of ID verification is NG.
CHAIN OF METER-IMMU*	The communication with combination meter is malfunction.
ID DISCORD METER-IMMU	BCM or Intelligent Key unit can receive from combination meter ID signal but the result of ID verification is NG.
CHAIN OF EPS-IMMU*	The communication with EPS is malfunction.
ID DISCORD EPS-IMMU	BCM or Intelligent Key unit can receive from EPS ID signal but the result of ID verification is NG.
UNREGISTERED ECM	ID is not registered in ECM.
ID DISCORD ECM-IMMU	The result of ID verification between BCM and ECM is NG. System initialization is required.

*: Applied for models without Intelligent Key system.

Diagnosis Procedure

EIS004QA

WORK FLOW



MIIB0492E

Trouble Diagnosis Symptom Chart

EIS004QB

MODELS WITHOUT INTELLIGENT KEY SYSTEM

NOTE:

Perform “Diagnostic Procedure 7”, when “P1610” is displayed by the “SELF-DIAG RESULTS” of the ENGINE. Refer to “CONSULT-II Operation Manual NATS”.

SYMPTOM	Displayed “IMMU FUNCTION CHECK” results on CONSULT-II screen.	Diagnoses service procedure	DIAGNOSTIC PROCEDURE
● Security indicator lighting up* ● Engine hard to start	UNREGISTERED BCM	Replace BCM	Refer to BL-236, "Diagnostic Procedure 1" .
	CHAIN OF IMMU-KEY	1. Check the following parts ● Open or short circuit between BCM and NATS antenna amp. ● Malfunction of key ID chip ● NATS antenna amp.	Refer to BL-236, "Diagnostic Procedure 2" .
		2. If the above system are “OK”, replace BCM	
	DIFFERENCE OF KEY	1. Perform registration key	Refer to BL-240, "Diagnostic Procedure 3" .
		2. If the above system is “OK”, replace BCM	Refer to BCS-31, "Removal and Installation of BCM" .
	CHAIN OF IPDM-IMMU	1. Check CAN communication system	Refer to BCS-31, "CAN Communication Inspection With CONSULT-II (Self-Diagnosis)" .
		2. If CAN communication is “OK”, replace IPDM E/R	Refer to PG-52, "Removal and Installation of IPDM E/R" .
	ID DISCORD IPDM-IMMU	Replace IPDM E/R	Refer to PG-52, "Removal and Installation of IPDM E/R" .
	CHAIN OF METER-IMMU	1. Check CAN communication system	Refer to BCS-31, "CAN Communication Inspection With CONSULT-II (Self-Diagnosis)" .
		2. If CAN communication is “OK”, replace combination meter	Refer to DI-34, "Removal and Installation for Combination Meter" .
	ID DISCORD METER-IMMU	Replace combination meter	Refer to DI-34, "Removal and Installation for Combination Meter" .
	CHAIN OF EPS-IMMU	1. Check CAN communication system	Refer to BCS-31, "CAN Communication Inspection With CONSULT-II (Self-Diagnosis)" .
		2. If CAN communication is “OK”, replace EPS	Refer to BCS-31, "CAN Communication Inspection With CONSULT-II (Self-Diagnosis)" .
	ID DISCORD EPS-IMMU	Replace EPS	Refer to PS-7, "STEERING COLUMN" .
	UNREGISTERED ECM	Replace ECM	Refer to BL-240, "Diagnostic Procedure 4" .
	ID DISCORD ECM-IMMU	Replace ECM	Refer toBL-241, "Diagnostic Procedure 5" .

*: When NATS detects trouble, the security indicator lights up while ignition key is in the “ON” position.

MODELS WITH INTELLIGENT KEY SYSTEM

NOTE:

Perform “Diagnostic Procedure 7”, when “P1610” is displayed by the “SELF-DIAG RESULTS” of the ENGINE. Refer to “CONSULT-II Operation Manual NATS”.

SYMPTOM	Displayed “IMMU FUNCTION CHECK” results on CONSULT-II screen.	Diagnoses service procedure	DIAGNOSTIC PROCEDURE
● Security indicator lighting up* ● Engine hard to start	CHAIN OF IMMU-KEY	1. Check the following parts ● Open or short circuit between BCM and NATS antenna amp. ● Malfunction of key ID chip ● NATS antenna amp.	Refer to BL-236, "Diagnostic Procedure 2" .
		2. If the above system are “OK”, replace Intelligent Key unit	Refer to BL-202, "Removal and Installation of Intelligent key unit" .
	DIFFERENCE OF KEY	1. Perform registration key	Refer to BL-240, "Diagnostic Procedure 3" .
		2. If the above system is “OK”, replace Intelligent Key unit	Refer to BL-202, "Removal and Installation of Intelligent key unit" .
	ID DISCORD IPDM-IMMU	1. Check CAN communication system	Refer to BL-191, "Check CAN Communication System" .
		2. If CAN communication system is “OK”, replace IPDM E/R	Refer to PG-52, "Removal and Installation of IPDM E/R" .
	ID DISCORD METER-IMMU	1. Check CAN communication system	Refer to BL-191, "Check CAN Communication System" .
		2. If CAN communication system is “OK”, replace combination meter	Refer to DI-34, "Removal and Installation for Combination Meter" .
	ID DISCORD EPS-IMMU	1. Check CAN communication system	Refer to BL-191, "Check CAN Communication System" .
		2. If CAN communication system is “OK”, replace EPS	Refer to PS-7, "STEERING COLUMN" .
	ID DISCORD ECM-IMMU	Replace ECM	Refer to BL-241, "Diagnostic Procedure 5" .

*: When NATS detects trouble, the security indicator lights up while mechanical key is inserted.

Security Indicator Inspection

EIS004QC

SYMPTOM	SYSTEM (Malfunctioning part or mode)	DIAGNOSTIC PROCEDURE
Security indicator does not operate*	Security indicator	Refer toBL-241, "Diagnostic Procedure 6" .
	Open circuit between Fuse and NATS IMMU (BCM or Intelligent Key unit)	
	Continuation of initialization mode	
	BCM (models without Intelligent Key system)	
	Intelligent Key unit (models with Intelligent Key system)	

*: CONSULT-II “IMMU FUNCTION CHECK” results display screen “no malfunction is detected”.

Diagnostic Procedure 1

EIS004QE

IMMU FUNCTION CHECK results:
“UNREGISTERD BCM” displayed on CONSULT-II screen

1. CONFIRM IMMU FUNCTION CHECK

Confirm “IMMU FUNCTION CHECK” results “UNREGISTERD BCM” displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

YES >>
- BCM is malfunctioning.
- Replace BCM.
- Perform initialization with CONSULT-II.
  - For initialization, refer to “CONSULT-II Operation Manual NATS”.

NO >> GO TO BL-234, "Trouble Diagnosis Symptom Chart" .

Diagnostic Procedure 2

EIS004QF

MODELS WITHOUT INTELLIGENT KEY SYSTEM

IMMU FUNCTION CHECK results:
“CHAIN OF IMMU-KEY” displayed on CONSULT-II screen

1. CONFIRM IMMU FUNCTION CHECK

Confirm “IMMU FUNCTION CHECK” results “CHAIN OF IMMU-KEY” displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO BL-234, "Trouble Diagnosis Symptom Chart" .

2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to BL-244, "Removal and Installation NATS Antenna Amp." .

OK or NG

OK >> GO TO 3.
NG >> Reinstall NATS antenna amp. correctly.

3. CHECK IGNITION KEY ID CHIP

Start engine with another registered ignition key.

Does the engine start?

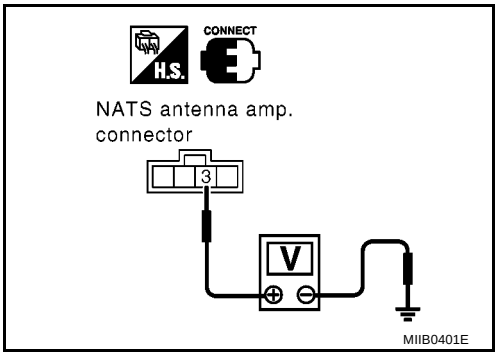
Yes >>
- Ignition key ID chip is malfunctioning.
- Replace the ignition key.
- Perform initialization with CONSULT-II.
  For initialization, refer to “CONSULT-II Operation Manual NATS”.

No >> GO TO 4.

4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch “ON”.
2. Check voltage between NATS antenna amp. connector M36 terminal 3 (LG) and ground with CONSULT-II or tester.

Battery voltage should exist.



OK or NG

OK >> GO TO 5.
NG >> Check harness for open or short between NATS antenna amp. and fuse.

5. CHECK NATS ANTENNA AMP. SIGNAL LINE

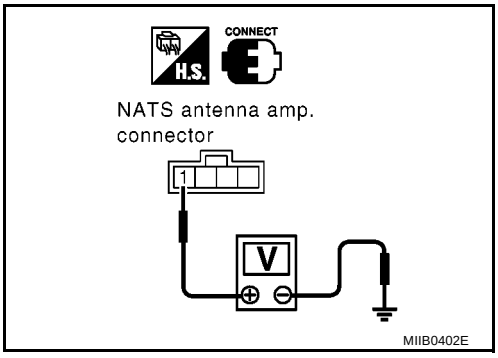
Check voltage between NATS antenna amp. connector M36 terminal 1 (OR) and ground with analogue tester.

Before turning ignition switch “ON”

Voltage: 0V

Just after turning ignition switch “ON”

: Pointer of tester should move.



OK or NG

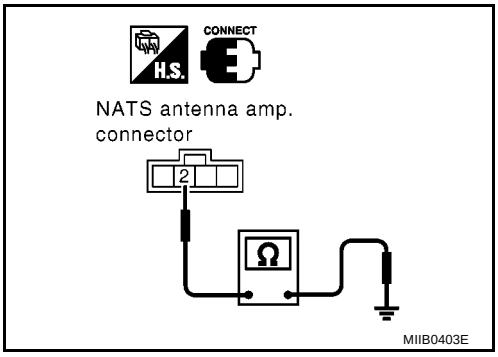
OK >> GO TO 6.
NG >> ● Check harness for open or short between NATS antenna amp. and BCM.

NOTE:
If harness is OK, replace new* BCM, perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual NATS”.
*: New one means virgin control unit that has never been energized on-board.

6. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

1. Turn ignition switch “OFF”.
2. Check continuity between NATS antenna amp. connector M36 terminal 2 (B) and ground.

Continuity should exist.



OK or NG

OK >> NATS antenna amp. is malfunctioning.
NG >> ● Check harness for open or short between NATS antenna amp. and ground.

NOTE:
If harness is OK, replace new* BCM, perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual NATS”.
*: New one means virgin control unit that has never been energized on-board.

MODELS WITH INTELLIGENT KEY SYSTEM

IMMU FUNCTION CHECK results:
“CHAIN OF IMMU-KEY” displayed on CONSULT-II screen

1. CONFIRM IMMU FUNCTION CHECK

Confirm “IMMU FUNCTION CHECK” results “CHAIN OF IMMU-KEY” displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO BL-234, "Trouble Diagnosis Symptom Chart" .

2. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to BL-244, "Removal and Installation NATS Antenna Amp." .

OK or NG

OK >> GO TO 3.
NG >> Reinstall NATS antenna amp. correctly.

3. CHECK MECHANICAL KEY ID CHIP

Start engine with another registered mechanical key.

Does the engine start?

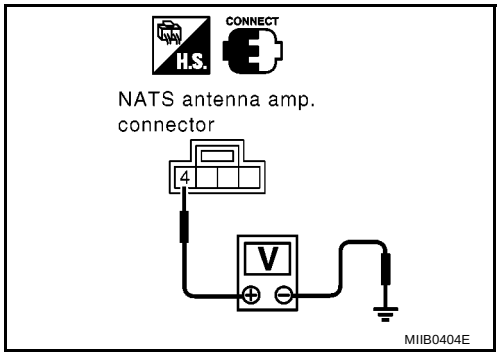
Yes >>
- Mechanical key ID chip is malfunctioning.
- Replace the mechanical key.
- Perform initialization with CONSULT-II.
  For initialization, refer to “CONSULT-II Operation Manual NATS”.

No >> GO TO 4.

4. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch “ON”.
2. Check voltage between NATS antenna amp. connector M35 terminal 4 (LG) and ground with CONSULT-II or tester.

Battery voltage should exist.



OK or NG

OK >> GO TO 5.
NG >> Check harness for open or short between NATS antenna amp. and fuse.

5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

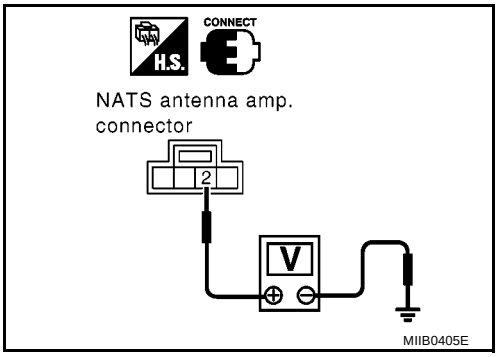
Check voltage between NATS antenna amp. connector M35 terminal 2 (W) and ground with analogue tester.

Before inserting mechanical key in ignition knob

Voltage: 0V

Just after inserting mechanical key in ignition knob

: Pointer of tester should move.



OK or NG

OK >> GO TO 6.

NG >> ● Check harness for open or short between NATS antenna amp. and Intelligent Key unit.

NOTE:

If harness is OK, replace new* Intelligent Key unit, perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual NATS”.

*: New one means virgin control unit that has never been energized on-board.

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

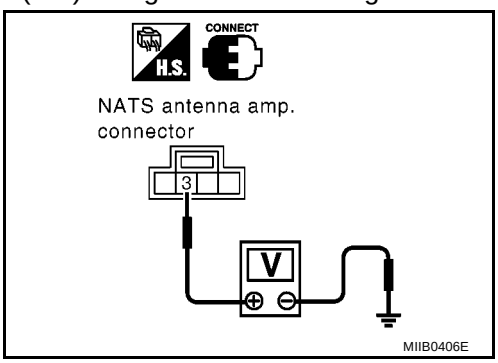
Check voltage between NATS antenna amp. connector M35 terminal 3 (OR) and ground with analogue tester.

Before inserting mechanical key in ignition knob

Voltage: 0V

Just after inserting mechanical key in ignition knob

: Pointer of tester should move.



OK or NG

OK >> GO TO 7.

NG >> ● Check harness for open or short between NATS antenna amp. and Intelligent Key unit.

NOTE:

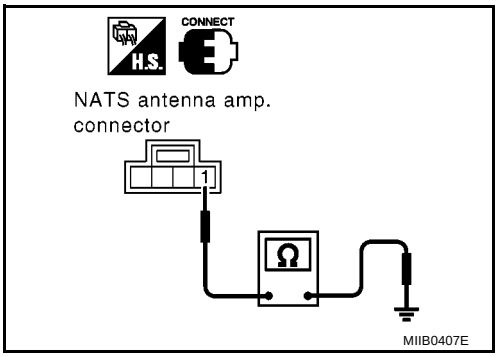
If harness is OK, replace new* Intelligent Key unit, perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual NATS”.

*: New one means virgin control unit that has never been energized on-board.

7. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

1. Turn ignition switch “OFF”.
2. Check continuity between NATS antenna amp. connector M35 terminal 1 (B) and ground.

Continuity should exist.



OK or NG

OK >> NATS antenna amp. is malfunctioning.

NG >> ● Check harness for open or short between NATS antenna amp. and ground.

NOTE:

If harness is OK, replace new* Intelligent Key unit, perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual NATS”.

*: New one means virgin control unit that has never been energized on-board.

Diagnostic Procedure 3

EIS004QG

IMMU FUNCTION CHECK results:
“DIFFERENCE OF KEY” displayed on CONSULT-II screen

1. CONFIRM IMMU FUNCTION CHECK

Confirm “IMMU FUNCTION CHECK” results “DIFFERENCE OF KEY” displayed on CONSULT-II screen.

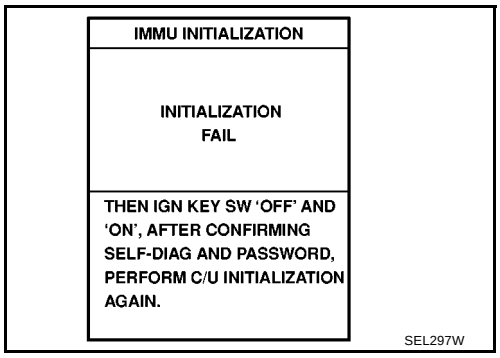
Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO BL-234, "Trouble Diagnosis Symptom Chart" .

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NATS ignition key IDs.
For initialization and registration of NATS ignition key IDs, refer to “CONSULT-II Operation Manual NATS”.

NOTE:
If the initialization is not completed or malfunctions, CONSULT-II shows message on the screen.



Can the system be initialized and can the engine be started with re-registered NATS ignition key?

Yes >>
- Ignition key ID was unregistered.

No >>
- BCM is malfunctioning. (models without Intelligent Key system)
- Replace new* BCM.
- Intelligent Key unit is malfunctioning. (models with Intelligent Key system)
- Replace new* Intelligent Key unit.
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II Operation Manual NATS”.

*: New one means virgin control unit that has never been energized on-board.

Diagnostic Procedure 4

EIS0056B

IMMU FUNCTION CHECK results:
“UNREGISTERD ECM” displayed on CONSULT-II screen

1. CONFIRM IMMU FUNCTION CHECK

Confirm “IMMU FUNCTION CHECK” results “UNREGISTERD ECM” displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

YES >>
- ECM is malfunctioning.
- Replace ECM.
- Perform initialization or re-communicating function.
  - For initialization, refer to BL-225, "ECM Re-communicating Function" .

NO >> GO TO BL-234, "Trouble Diagnosis Symptom Chart" .

Diagnostic Procedure 5

EIS0056C

IMMU FUNCTION CHECK results:
“ID DISCORD ECM-IMMU” displayed on CONSULT-II screen

1. CONFIRM IMMU FUNCTION CHECK

Confirm “IMMU FUNCTION CHECK” results “UNREGISTERD ECM” displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

YES >>
- ECM is malfunctioning.
- Replace ECM.
- Perform initialization or re-communicating function.
  - For initialization, refer to “CONSULT-II Operation Manual NATS”.

NO >> GO TO BL-234, "Trouble Diagnosis Symptom Chart" .

Diagnostic Procedure 6

EIS0056G

MODELS WITHOUT INTELLIGENT KEY SYSTEM
“Security indicator does not light up”

1. CHECK FUSE

Check 10A fuse [No. 8, located in the fuse block (J/B)]

OK or NG

OK >> GO TO 2.
NG >> Replace fuse.

2. CHECK SECURITY INDICATOR LAMP

1. Install 10A fuse.
2. Start engine and turn ignition switch OFF.
3. Check the security indicator lamp lights up.

Security indicator lamp should light up.

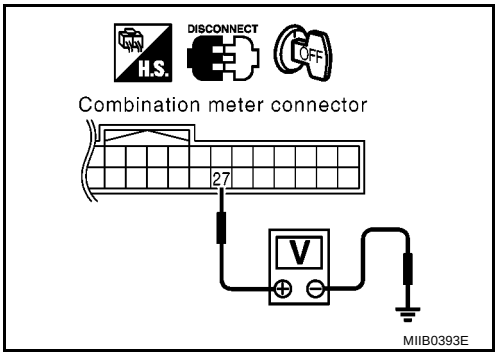
OK or NG

OK >> Inspection END.
NG >> GO TO 3.

3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect combination meter (security indicator lamp) connector.
2. Check voltage between security indicator lamp connector M22 terminal 27 (LG) and ground.

Battery voltage should exist.

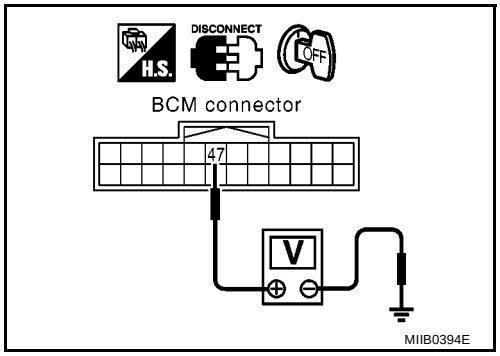


OK or NG

OK >> GO TO 4.
NG >> Check harness for open or short between fuse and security indicator lamp.

4. CHECK BCM FUNCTION

1. Connect combination meter (security indicator lamp) connector.
2. Disconnect BCM connector M3.
3. Check voltage between BCM connector M49 terminal 47 (P) and ground.



Battery voltage should exist.

OK or NG

OK >> BCM is malfunctioning.
- Replace BCM.
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II Operation Manual NATS”.

NG >> Check the following.
- Harness for open or short between security indicator lamp and BCM.
- Indicator lamp condition

MODELS WITH INTELLIGENT KEY SYSTEM
“Security indicator does not light up”

1. CHECK FUSE

Check 10A fuse [No. 8, located in the fuse block (J/B)]

OK or NG

OK >> GO TO 2.
NG >> Replace fuse.

2. CHECK SECURITY INDICATOR LAMP

1. Install 10A fuse.
2. Start engine and turn ignition knob OFF position.
3. Check the security indicator lamp lights up.

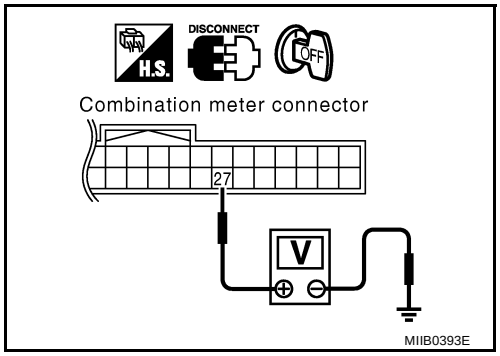
Security indicator lamp should light up.

OK or NG

OK >> Inspection END.
NG >> GO TO 3.

3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect combination meter (security indicator lamp) connector.
2. Check voltage between security indicator lamp connector M22 terminal 27 (LG) and ground.



Battery voltage should exist.

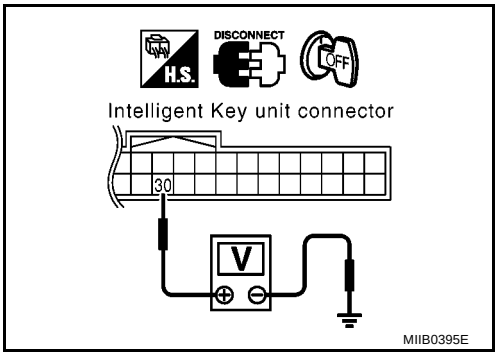
OK or NG

OK >> GO TO 4.
NG >> Check harness for open or short between fuse and security indicator lamp.

4. CHECK INTELLIGENT KEY UNIT FUNCTION

1. Connect combination meter (security indicator lamp) connector.
2. Disconnect Intelligent Key unit connector M51.
3. Check voltage between Intelligent Key unit connector M51 terminal 30 (P) and ground.

Battery voltage should exist.



OK or NG

OK >> Intelligent Key is malfunctioning.
- Replace Intelligent Key unit.
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II Operation Manual NATS”.

NG >> Check the following.
- Harness for open or short between security indicator lamp and Intelligent Key unit.
- Indicator lamp condition

Diagnostic Procedure 7

EIS0056H

IMMU FUNCTION CHECK results:
“P1610” displayed on CONSULT-II screen

1. CONFIRM IMMU FUNCTION CHECK

Confirm “IMMU FUNCTION CHECK” results “P1610” (LOCK MODE) is displayed on CONSULT-II screen.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO BL-233, "WORK FLOW" .

2. ESCAPE FROM LOCK MODE

1. Turn ignition switch OFF.
2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds.
3. Return the key to OFF position. Wait 5 seconds.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.

Does engine start?

Yes >> System is OK (Now system is escaped from “LOCK MODE”).
No >> Perform “IMMU FUNCTION CHECK”, and repair the diagnosis result on the display.

Removal and Installation NATS Antenna Amp.

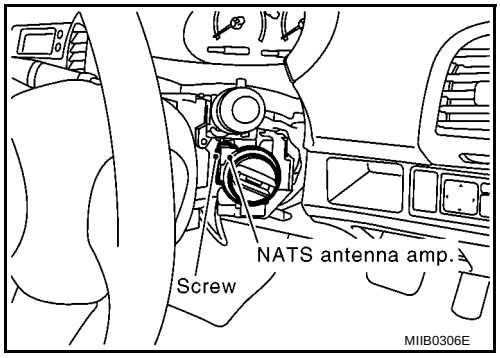
EIS004QK

REMOVAL

CAUTION:

Before servicing SRS, turn ignition switch OFF, disconnect both battery cables and wait at least 3 minutes.

1. Remove the spiral cable. Refer to SRS-38, "Removal and Installation" .
2. Disconnect the NATS antenna amp. connect, remove the screw and NATS antenna amp.



INSTALLATION

Install in the reverse order of removal.